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JAMES B. HUNTER, M. D.

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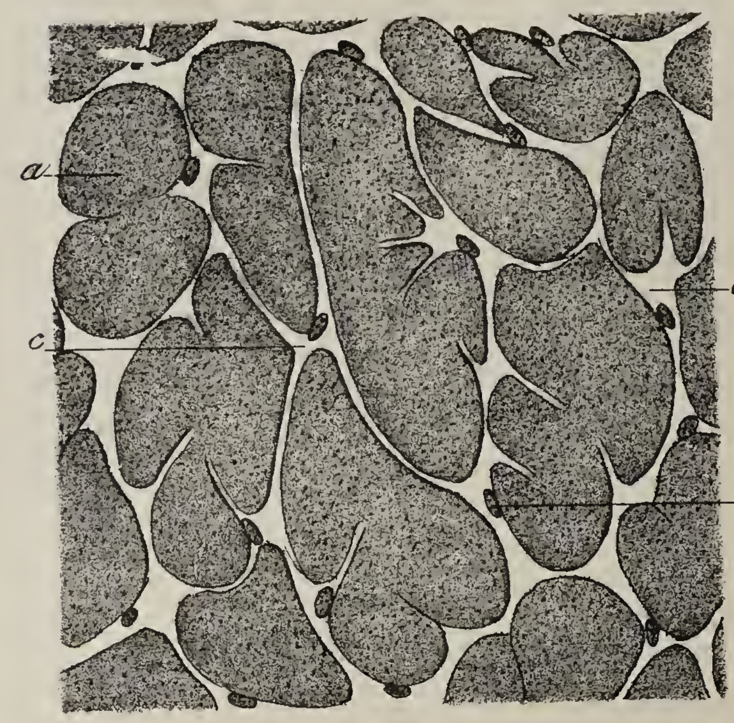
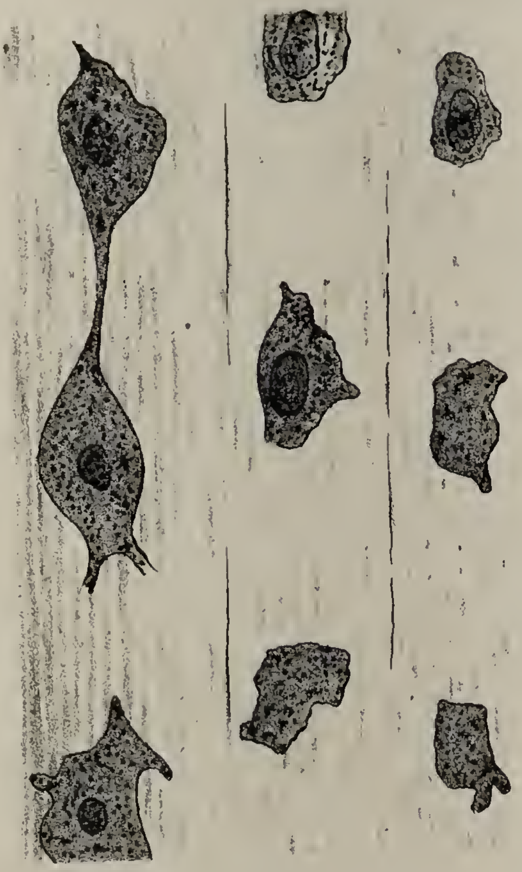


Fig. 1.



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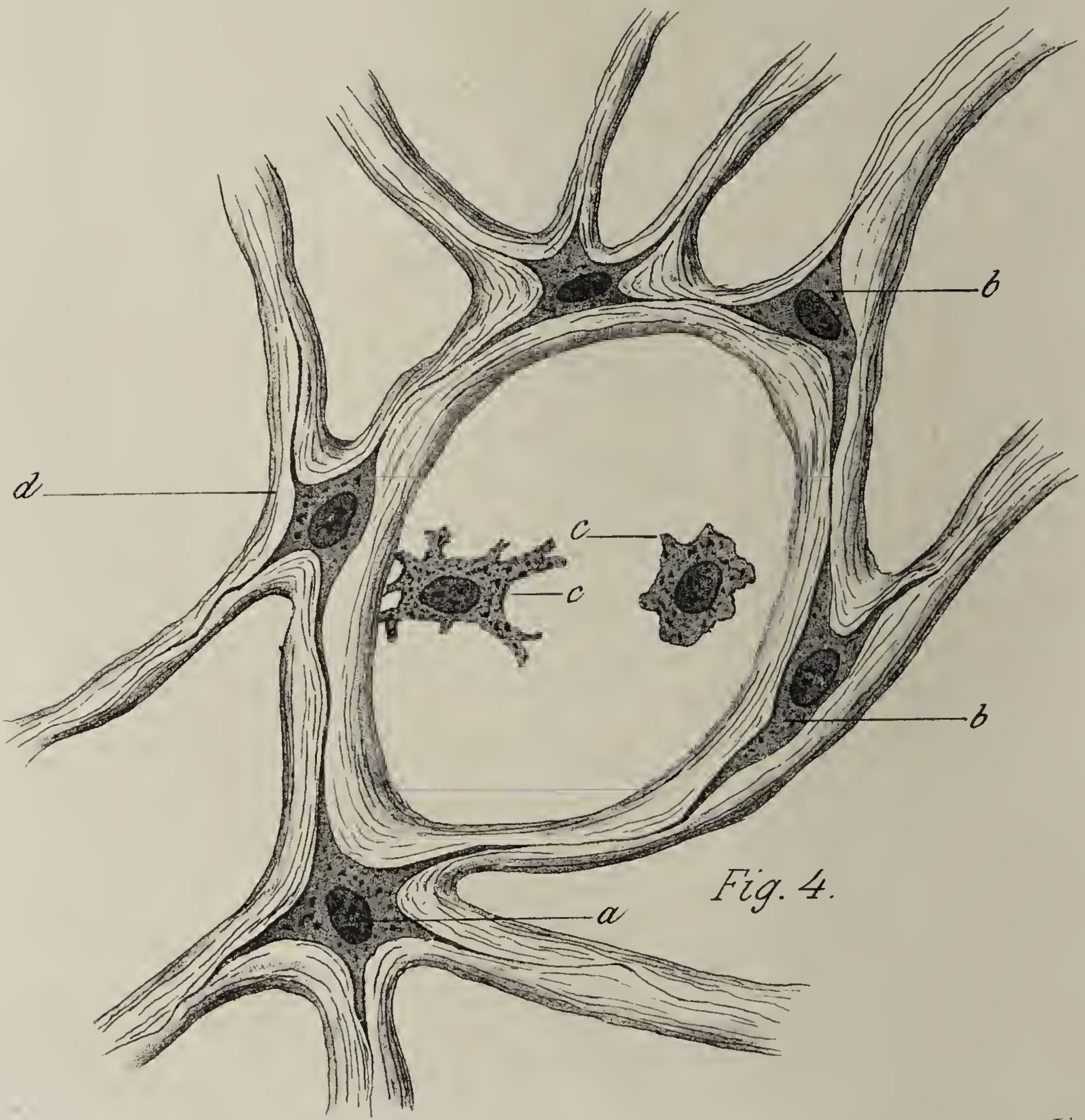

Fig. 4.

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Original Communications.

Art. I.—*On the Structure and Development of Connective Substances.*[1] By Thomas E. Satterthwaite, M. D., Microscopist to the St. Luke's and Pathologist to the Presbyterian Hospitals.

During the last few years a great deal of attention and study has been directed toward a somewhat remarkable group of substances that enter largely into the composition of the body, where they form, in union with one another, a connected system, and so have obtained for themselves the name *connective substances*, their office being to furnish support or protection for the vessels, nerves, muscles, or epithelial bodies.

One or more of these substances may be found in every tissue or organ, where they are deeply concerned in all changes, such as those of repair, degeneration, or disease. The evident importance of knowing the characters of these substances in their various modifications has attracted to them a great deal of study, but opinions are still somewhat divided about them, there being little definite agreement as to the structure they exhibit even in the healthy and adult condition.

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[1] Prize Essay of the Alumni Association of the College of Physicians and Surgeons, 1876. Read before the Biological Section of the New York Academy of Sciences, May 1, 1876.

It has therefore been difficult in all cases to decide how much the modified appearances they present have been the result of altered action, or merely variations that belong to the natural life of the substance.

The determination of what constitutes the normal condition is, then, a matter of the first importance, and it is in this direction that the present inquiries have been made. The present essay is designed to embody a series of experimental researches upon the general subject of *connective substances*, with the view of determining some of the more important facts that have been matters of controversy.

The name *connective substances* has been adopted because it is already in use by leading histologists, and because it is an extremely convenient word under which to group together a large number of animal substances that have a very close relation with one another. The name was first proposed by Reichert in 1845, and embraces *bone*, *cartilage*, *dentine*, and the delicate forms called *mucous tissue*, *adenoid tissue*, *neuroglia*, *fat tissue*, *fibrillated connective tissue* (*fibrous tissue*), *intermuscular tissue*, *corneal tissue*, *tendon tissue*, and *elastic tissue.*

The general reasons for classifying these substances separately may be stated as follows: They are all said to be derived from the middle germinal layer of the embryo;[1] one form in one animal is often substituted for another form in another animal, so that fibrous tissue or cartilage in one animal will perform the same function as bone in another, and they have in this way come to be regarded as equivalents of one another in a morphological sense; again, it is quite apparent that one form often succeeds another form in the natural life of the body, fibrous tissue or cartilage of youth being transformed into bone in the adult. In the growths of tumors, these changes are frequently seen.

The word *connective tissue*, originally proposed by Johannes Müller, as distinguished from *connective substance*, has also sometimes been applied to one or more members of the same class, and, indeed, it is in this way that much confusion has been produced, for, while some observers have used the word in the broad sense of connective substance, others have limited it to some specific form, such as fibrous tissue (fibrillated connective tissue).

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[1] The sustentacular tissue of the brain and cord is thought to be an exception to this. Frey's "Histology," p. 196.

To avoid any such source of error, we shall call each form by its distinctive name, as mucous tissue, adenoid tissue, and the like, and then we shall find that, though there is a strong bond of relation between all the forms, they (many of them) show as distinctive differences as any other tissues in the body. The word *connective tissue* will accordingly be avoided entirely except where its character is specifically described, as when using the expression "fibrillated connective tissue," or "connective tissue of the kidney," etc. We may then expect to get more precise notions of the minute structure of each variety, and so of the peculiar relations they each hold to pathological change.

The three that stand at the head of the list, viz.: *bone*, *cartilage*, and *dentine*, are in many respects better understood than the others, chiefly because in gross appearance they show distinctive differences and because their anatomical elements have been more easy to isolate. The consideration of them, however, does not come within the range of the present work, and no further mention of them will therefore be made.

Our knowledge of connective substances dates from a comparatively recent period, for the first systematic efforts to determine their minute structure appear to have been made by Schwann in 1839. Since that time the doctrines in these matters have undergone important modifications, and it will be essential to consider the more important of them before we can get a clear conception of the views which are now entertained.

Schwann was the first to point out in these tissues certain bodies that he called spindle-shaped or caudate cells. The word "cell" is here used by Schwann in speaking of the variously-shaped fixed cells, as distinguished on the one hand from the wandering cells which are now called leucocytes or lymphoid corpuscles, and on the other from the intercellular substance. The word "cell" seems to have originated so much trouble that it would be desirable to avoid it entirely;

but this is impossible from the very general use that is made of it. It will, however, be restricted in what follows to the fixed corpuscles of the parts. The difficulty in the use of the word "cell" has been, that observers have frequently, as we shall see, mistaken bundles of fibres for corpuscles, and because they are not agreed as to what properties belong to a cell. It has seemed better, therefore, to offer a description of appearances as they were noted during these studies, from which we may subsequently decide whether or not they are to be called "cells."

It is proper to state that, previous to Schwann's discovery, it was supposed that all connective tissues, by which were meant *connective substances* in general, were made up of fibres, though even this had been denied by Reichert, who insisted that there were no fibres at all, but the apparent fibres were simply foldings of the substance. A new impetus to these questions was given by Virchow ("Cellular Pathology," 1871, pp. 69–73 and 131), who at first opposed Reichert, maintaining that spindle-shaped or caudate cells did exist, and that in most cases the cells maintained their integrity, and consequently the connective tissue of early and late periods did not differ in general structure; the cells remained the same though they were not so easy to detect. He further stated that the connective tissues (connective substances) could not be distinguished by the character of their cells, for, in all connective tissue, round, angular, and long cells might occur; he also believed the cells were hollow and their processes hollow, constituting channels by which nutritive juices could be conveyed from place to place, being in fact like the lacunæ and the canaliculi of bone.

These views, however, he was obliged to modify at a later period.

Henle opposed Virchow's idea of connective-tissue corpuscles in certain particulars, especially in tendon tissue, and maintained that what seemed on cross-section to be cells, were merely spaces between the bundles, in which were nuclei and elastic fibres (*Müller's Archiv.*, 1852, p. 92). This statement was based upon a method he had of injecting the interspaces.

The figures that were regarded by Virchow as the stellate cells were, in reality, the angular spaces (Henle's spaces, Figure 1, *c*) between three or more bundles, and they contained either a cross-section of an elastic fibre, or more probably, perhaps, the profile view of a connective-tissue corpuscle (*b*). As tendons contain but little elastic tissue, and the cross-sections of such a fibre would be extremely small, the latter view is probably the correct one.

Henle at an earlier period had described as cells of this tissue, bodies that were like little plates, arranged in rows (*Canstatt's Jahresbericht*, 1851, p. 23). He undoubtedly was one of the first to get a correct conception of the real nature of these bodies. Later, Rollett also expressed somewhat similar views (*Henle and Pfeufer's Zeitschr.*, 1859).

Subsequently, great advances were made in these studies, at first by the use of acetic acid which rendered the nuclei visible, and later, by the discovery of certain reagents which differentiated the elements even more strongly, and also by the application of certain fluids, such as Müller's fluid, which separated the bundles into their components, the fibrils.

Ranvier has really had most of the credit for directing the attention of histologists to the plate-like corpuscles, though, as we have seen, Henle had already mentioned them and Ranvier himself credits him with their discovery (*Archives de Phys.*, 1869, II., p. 471).

Billroth also described them in 1858. Ranvier, however, gave the most distinct statement that had been made of the relations the corpuscles bore to the fibres. He said that these plate-like bodies formed a sort of investing sheath about the bundles, and so constituted hollow cylinders, something like drain pipes, the plate-like bodies themselves being held together by a firm, cementing substance. In some cases, however, these plates were not firmly united together in rows, but had considerable spaces between them, forming open or incomplete tubes. He stated, in fine, that connective tissue (by which, however, it is not clear exactly what varieties he meant it to include) was formed essentially of bundles of fibres, of elastic tissue, and of cells, and the bundles were cylindrical.

There were only two kinds of cells, one kind flat, containing granular protoplasm and nuclei, and having irregular outlines and prolongations; the other round and having nuclei, and not to be distinguished from white blood-globules.

Among the comparatively recent studies are those of Lœwe. This author has thrown a great deal of light upon the subject of tendons, especially upon their sheaths, which he believes are lined with endothelial cells, and constitute passages for the flow of lymph. He states also, that the tendon bundles are covered with a continuous and closed sheath which is made up of the plate-like cells embedded in an amorphous elastic ground substance, and that the bundles present the same characters for great distances.

These corpuscles, "Ranvier's cells," are also covered by another layer which he calls the sub-endothelial layer, and which can be distinctly demonstrated by what is known as the silver method (*Medicinische Jahrbücher*, iii., and iv., 1874). The subject of these endothelial bodies is now attracting the attention of histologists, and promises valuable results. The views of later writers have so far agreed, that they have come to regard the fixed corpuscles of these substances not as spindle-shaped, but rather as thin, delicate, and plate-like. This view has, however, been attacked by Waldeyer as a generalization that has been carried too far. He believes that the corpuscles or so-called plate-like cells of tendon tissue and fibrous membranes are not simple, but complicated structures, and not single plates, but rather a number of plates meeting one another at different angles. The extremities of these plates terminate in fine processes that *often* anastomose with corresponding processes of other corpuscles; the nucleus is found on one of these plates. As for the corneal corpuscles, which have been so much discussed, he believes they are plate-like bodies, which are provided with distinct protoplasm about the nucleus, the amount diminishing toward the periphery, but in general characteristics do not differ much from the corpuscles of tendons and other fibrous tissues. The nuclei are difficult to make out, and are sometimes round, sometimes elongated like narrow rods, and sometimes are knobbed at each end, sometimes crescentic, and sometimes cruciform, though generally oval (*Archiv. f. mikrosk. Anatomie*, i., 1875, p. 176).

It may be regarded as a fair statement of the case, if we say that most histologists believe that these tissues, generally, though we shall except from them elastic tissue, consist of certain fixed corpuscles of a plate-like form superimposed upon bundles of fibrils of indefinite length. As further exceptions to this may be mentioned, mucous tissue proper, in which there are no bundles; perhaps also, adenoid tissue, for it is said by Klein to be made up of netted cells, without bundles or fibres; so, too, it does not appear that the statement has ever been made that the neuroglia contains these peculiar bodies. The intermuscular tissue of the frog's thigh is also regarded by many as having no fibrils excepting those of elastic tissue.

Thus we see that excepting only in the character of the corpuscles there is not much agreement among observers, and even on this point there is difference of opinion.

It has seemed impossible to get a clear idea of these matters in any other way than by a systematic study of each and every one of the forms, subjecting them as nearly as possible to the same method of examination. This accordingly has been done, and the main inquiries have been directed toward —1. The general character and dimensions of the corpuscles in each; 2. Their relations to one another; 3. The character of the intercellular substance. It is believed that the use of several new methods which do not appear to have been previously used in investigating the connective substances has helped to throw light upon these obscure subjects. The consideration of each tissue will be taken up in the order in which it has been tabulated. Some observations on *development of connective substances* will then follow.

1. *Mucous Tissue.*—It is well known that this substance is seen to great advantage in the umbilical cord of the embryo, and the following method has been found best suited to demonstrate it. Take a small piece of cord at about the third month and immerse it a few weeks in Müller's fluid; make a thin section through the very soft gelatinous part, then immerse it a few minutes in distilled water to which subsequent-

ly a few drops of acetic acid are to be added, so that the solution shall not contain more than one per cent. of acid, and then mount in glycerine. It will then be seen that the softest portion contains numbers of irregularly-shaped flattened plates, some containing an oval, flattened nucleus, others having none that are apparent (Figure 2). Some of these flattened bodies anastomose by these processes with those of other plates; others are quite free. The substance lying between the cells, the intercellular substance, is in the softest portions quite homogeneous or slightly granular, and has no marks of fibrillation. In the neighborhood of the firmer tissue, lines of fibrillation occur, while at the same time these flattened bodies become smaller, though they are still flat.[1] The intercellular substance is distinguished by its chemical reaction, which distinguishes it from other albuminoid substances. It differs from albumen in not containing sulphur, from chondrin and gelatin in not being precipitated by boiling, tannin or the bichloride of mercury.

The corpuscles appear to consist of an oval, flattened central body, about which there is an extremely delicate and pale envelope, that may or may not be connected with other similar bodies. These delicate bodies are smaller the nearer they are found to the firmer or fibrillated tissue, while as they diminish in size there appear under them certain areas of intercellular substance having the form of elongated and flattened bands, which seen in profile give to the whole the appearance of a spindle cell of which the flattened body is the nucleus (Figure 3, *a*). That this is an illusion, however, may be judged from the fact that the flattened band will often be found to show the marks of fibrillation and the flattened body may be seen to be simply superimposed *on* the band and not *in* it, for, by carefully brushing these tissues with a camel's-hair brush after the prolonged use of Müller's fluid as above mentioned and the subsequent immersion in a solution of common salt (ten per cent.), the bodies may often be brushed away (*b*). Teasing of the tissue will often show isolated bands of more or less fibrillated tissue and having no central body that can be seen, even with the use of strong staining solutions; these evidences, therefore, seem to show pretty conclusively that such bands are not the bodies of the cell, as often stated, but rather portions of the intercellular substance in which fibrillation is commencing. About the flattened body will also be seen the remains of the envelope, either as a delicate film about it or in the form of irregular processes, projecting in various directions. According to this view of the case, therefore, the original flattened body or "nucleus" is at first surrounded by a delicate envelope, "the body of the cell;" the former undergoes comparatively little change while the latter may almost entirely disappear. The fibrillation, however, appears first in the intercellular substance, the flattened corpuscle apparently never taking any part in it. As the tissue becomes more fibrillated and consequently firmer, the little plates diminish in size and are further apart.

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[1] The intercellular substance in the figure is imperfectly represented.

2. *Fibrous Tissue* (Figure 4).—This substance, which is also known as fibrillated connective tissue, occurs either in parallel bundles or in networks. The latter variety may be shown exceedingly well in the umbilical cord of an infant at birth. If the same method is pursued as in the former case, excepting that a cut be made through the spongy portion of the cord, the following appearances will be noticed.

It will be seen that the tissue is composed of bright, shining, branching bundles (*d*), superimposed upon which are a number of oval flattened plates (*a*) at intervals; about them is a delicate envelope (*b*), which appears to be highly elastic, so that it will stretch or relax according as the networks are compressed or dilated. By teasing with needles or immersion for a few days in a ten-per-cent. watery solution of common salt, these corpuscles can often be separated from the bundles, and then they will be seen to form a connected system. When entirely isolated from one another, they often appear spindle shaped. That this is not their character may be shown by *passing a current of fluid through the specimen*, which is done by the simple method of irrigation; that is, having affixed small strips of filter paper to the edges of the cover, and moistened one side with fluid, the excess will be absorbed by the other slip, causing a current by which the corpuscles may be made to roll over. We then learn that they are disks of an irregularly flattened form, having longer or shorter processes (*c c*)—variations in form which seem to depend in a great measure upon the tension to which they are exposed, and the position they occupy in the tissue. This explanation will serve to show why all measurements of such corpuscles are merely approximative, and have but little value. The nucleus may be regarded as an exception, for it seems, in fresh specimens, when the substance has been swollen by immersion in water, to be oval and flattened in whatever position it is placed. The bundles upon which these bodies are placed are cylindrical in form, branched, and composed of separate filaments, which can be separated by Müller's fluid, or a ten-per-cent. watery solution of common salt. Two other forms of corpuscles may also be noticed, the kind observed by Waldeyer (*loc. cit.*), and thought by him to be those that take up fat to make fat tissue, bodies four or five times the size of a lymphoid corpuscle, and rounded in form, containing a central body, and the ordinary lymphoid corpuscles seen at times in all tissues.

The form of fibrous tissue that occurs in parallel bundles is well shown in the mesentery of the frog, and in serous membranes generally. No great difficulty will be met with in preparing this tissue, for it is only necessary to remove it from the frog in the fresh state, acidulate it in a weak (one-per-cent.) watery solution of acetic acid, and mount it in glycerine.

It will be seen that these so-called spindle cells are really flattened plates when viewed flatwise, and generally of an irregularly quadrilateral form, though the form varies somewhat in each instance (Figure 5). [What relation these corpuscles bear to the interfascicular lymph-spaces described by Klein was not determined, as the silver method was not used. The bodies here described correspond very closely with those figured by this author, who regards them as standing in the radicles of the lymphatic system. "Anatomy of the Lymphatic System," II., p. 7.]

3. *Adenoid Tissue* (Figure 6).—Adenoid tissue is the name given to the delicate substance that forms the framework of the lymphatic glands. It consists of networks of

fibres forming an intricate meshwork, that is filled with the rounded bodies commonly known as lymphoid cells. It is exceedingly difficult to analyze these tissues, owing to the fact that, with the exception of the lymphoid corpuscles, it is often hard to make out anything that conveys to the eye the idea of a cell body in the usual sense of the term. The best mode of procedure was found to be the following: Take a lymphatic gland that is in the early stage of inflammation, as an inguinal gland, for instance; harden it at first in Müller's fluid, and then in alcohol, and make sections through it. On viewing such a section with the microscope, it will be seen that it is formed of a delicate meshwork containing numbers of lymphoid corpuscles (*a*). By taking such a thin section and agitating it in a test-tube with water for a considerable length of time, and then placing it upon a glass slide and brushing it with a camel's-hair brush, most of the lymphoid cells will be removed, and the delicate network will be more thoroughly exposed. It will be seen that, at certain parts in this meshwork, there are flattened bodies (*b*) of small size lying upon the larger parts of the meshes. It is held by Klein and other histologists that these are branching corpuscles; but it is by no means clear that this is always the case. In some instances this appearance is well seen in those portions of the glands that are regarded as the lymph passages, where the adenoid tissue forms the framework of the part. These fibres are extremely delicate, like fine silken cords, forming meshes which inclose vast numbers of lymphoid corpuscles, and appear to exhibit corpuscular bodies at the nodal points of the meshes. These delicate fibres, however, are often replaced by heavy cords (*c*), such as are seen in the drawing; and after continual inflammations the diameter of the cords may be found to be greater than that of the spaces. In these latter cases, it is often difficult to find any corpuscular elements that may not be separated from the fibres; and, indeed, large areas of these fibrous networks may, by diligent brushing with a camel's-hair brush, be swept clean of corpuscles. But neither this rough method, nor agitation in a test-tube, will always succeed in separating the corpuscles from the fibres, even after an immersion in common-salt solution for many weeks. I do not, therefore, feel quite satisfied in thinking that adenoid tissue does not consist of branched corpuscles; but it is quite clear that the so-called networks of cells are at times replaced by networks made up of branching bundles of fibres, and in which the corpuscles play a minor part. Whether in such cases the bundles are made by the splitting up of the corpuscles, or, on the other hand, they are formed about the corpuscles, I do not feel prepared to decide. In my individual opinion, I must incline to the latter view as more in accordance with the appearances that are seen in the growth of reticular tissue, as I have had an opportunity of studying it in the umbilical cord. Where the fibrous networks have attained some thickness, there it seems that we find the ordinary flattened connective-tissue plates lying on the bundles, and surrounded by a delicate envelope in some cases.

It is not inconsistent with this theory that some, at least, of these lymphoid corpuscles may originate from the flattened corpuscles of the adenoid tissue, for it appears sometimes as if this production of the corpuscles could really be seen.

4. *Neuroglia* or *Bind-web*, Seguin (Figure 7).—But a short time since, it was not known positively whether the delicate cementing substance of the nervous system, but more especially of the brain, was granular or fibrous. Even after Virchow claimed that this substance was like the other tissues known as connective, doubt was still thrown upon the matter, for the defining power of the objectives then used was often insufficient to make out these delicate objects. At the present time the actual existence of such a delicate network is hardly called in question, for it may be demonstrated with really good glasses, such as some of the immersion lenses (No. 10) of Hartnack's system. As to the question of the corpuscular elements there is, even now, some question, and it can hardly be regarded that their exact form and shape have been definitely agreed upon by histologists. We find, it is true, that, where there is considerable development of connective material along the central canal of the spinal cord, there we have the ordinary fibres and corpuscles already described, and so, too, near the surface of the convolutions. When, however, we examine the supporting substance of the white and gray masses,

it is more doubtful as to the character of the delicate tissue we meet with. The real condition may be tolerably well seen by adopting the following plan. Place any portions of the brain or cord in a weak solution of bichromate of potash (five per cent.) or Müller's fluid for a few days, and then immerse it in alcohol until hard, and make thin sections, which stain in the following solution of hæmatoxylin for twenty-four hours:

Hæmatoxylin,	gr. lii.
Aluminis,	ʒj.
Aquæ,	℥ viij.

M. and strain.

Wash in distilled water and mount in glycerine, tease with needles and examine with a high power; there will then be no difficulty in seeing that the delicate supporting substance of both gray and white matter consists of fibres. They may even be distinctly isolated, for the coloring matter darkens them somewhat, and they become hardened at the same time, so as to be somewhat stiff and unyielding. Then it will be seen that many fibrils are disposed in parallel rows which, perhaps, can hardly be called bundles, but rather thin laminæ; other similar fibrils cross them at various angles, giving to the whole, with a moderately high power, the appearance of a very delicate meshwork (*a*). It does not appear as if the fibrillæ anastomose with one another, though this point would be extremely difficult to settle. It must be stated that possibly some of these fibrils may be nerve elements, though this seems doubtful, because they do not even seem to be connected with the nerve fibres that are distinctly shown by this method of preparation. In the drawing they are not represented, to avoid confusion. Of course, granular appearances are always noted in the brain, but this must be the case when cross-sections are made of the delicate fibrillæ. There are three kinds of corpuscles met with in the brain and medulla. The first are the variously-shaped ganglionic corpuscles or cells (*b b b*), then the ordinary lymphoid cells (*c c*), which here are generally seen to have a pale envelope about them; lastly, smaller corpuscles (*d d*) of irregular shapes, and many of them undoubtedly flattened and appearing to have branching processes (*d*). They may be found in considerable numbers, and can be isolated, so that there is no doubt that they exist. The fibrillæ of the neuroglia do not differ substantially in size from the fibrillæ of fibrous tissues elsewhere.

5. *Tendon Tissue* (Figure 1).—Tendon tissue may be well studied in the gastrocnemius of the frog. It is prepared like the preceding. If, however, it is desirable to show the nuclei in adult tissue, it is well to use nitrate of silver. Cut a thin section of a fresh tendon and expose it for a few minutes in a one-half-per-cent. solution of nitrate of silver, until the section is turbid or milky, then place in the sunlight, and in a few minutes the turbid color will give place to dark brown or black, owing to the deposit of silver, and the tissue may then be mounted in glycerine and examined. This method will show the corpuscular bodies to advantage. In some cases better results are obtained by the use of chloride of gold. The method is as follows: Freeze a thin portion of a tendon, then make the thinnest possible section, acidulate it slightly, and then immerse in a one-half-per-cent. solution of chloride of gold, until a straw-yellow color has been obtained, and then immerse in a one-fourth-per-cent. solution of dilute acetic acid, and expose to the sunlight until it is purple or reddish; this will take a variable time, and is not always successful, for reasons which are not easy to understand. This is the ordinary method now in general use. At considerable distances from one another there will be seen small dark bodies, which are the corpuscles already described. It is difficult to show that these corpuscles are connected together. To isolate them, take a small piece of young tendon tissue, immerse three or four days in a ten-per-cent. solution of common salt, and then tease. In this way the cells may be liberated, and they will be found to be irregularly-flattened plates. Silver or gold, the latter especially, is generally necessary to show the nuclei in old tendons. The same method shows the fibrillated tissue to advantage. These latter methods will also show that the tendon bundles are covered, more or less completely, with a delicate epithelium (endothelium). The tendon corpuscles do not by any means form a connected sheath for the bundles. In very young tendons the corpuscles are very near together, though even then they only form a partial

investment for the bundles; but as the tendon grows older the corpuscles become smaller, withdraw from one another, and sometimes almost disappear.

6. *Fat-Tissue.*—This is a form of tissue that seems to be the ordinary fibrillated connective tissue in a changed condition. It becomes the deposit for oil which appears to fill the corpuscles, making them swell out enormously, as already stated. An excellent way of showing this tissue consists in making a section of a portion of fatty tissue that has been hardened in alcohol or Müller's fluid, or both. The appearances will, in this way, be well shown. After immersion in an acid solution, it will be seen that the fatty acids crystallize in the centre of the sac.

The nature of the evidence that the fat-corpuscles are really the transformed corpuscles of the fibrous tissues is as follows: They occupy the same position, being in rows between the bundles and corresponding in position to the other corpuscles that we have mentioned; a few oil-drops at first appear, then others, until finally they coalesce into a single large drop which fills the envelope; if fat-tissue be pressed and the oil escapes, the walls of the fat-corpuscles collapse, and then the flattened plates (nuclei) may be observed on the side of the cavity.

Waldeyer (*loc. cit.*) believes that there is a peculiar corpuscle, three to five times the size of a lymphoid corpuscle, and roundish, which is especially prone to take up fat, and be converted into a fat-corpuscle.

These corpuscles have recently been noticed in most of the connective substances, but it seems uncertain whether they are undergoing fatty change as a physiological or pathological act. They are said to occur constantly in the skin disease known as zanthelasma, and I have found them frequently in diphtheritic membranes, where they appeared to represent the corpuscles of the imperfectly-developed tissue of the membrane, on the third or fourth day of the disease.

7. *Intermuscular Tissue.*—It has been claimed by some that there is a form of spindle cell in the intermuscular tissue in the thigh of the frog. This, however, is apparent rather than real. We find broad plates, in which are oval flattened

bodies placed at certain distances apart (Figure 8). These seen in profile appear spindle shaped. There is something peculiar about these bodies, for they seem to bear a close relationship to the elastic networks (*a*), so that in some cases it appears as if the flattened central bodies were directly connected with the elastic fibres as stated by Boll (*Arch. für mikrosk. Anat.*, 1870). In many instances these elastic fibres lie upon the plates (*b*). The broad plates rest in a homogeneous, intermediate, and apparently structureless substance. In this tissue, therefore, it has not as yet appeared that there are fibrils in the intercellular substance. On the contrary, this substance is soft and homogeneous and highly elastic, and gives the appearance of a tissue that has retained to a great extent its embryonic form.

Connective Tissue of the Kidney (Figure 9).—Here also the plate-like corpuscles may be seen (*a*) as distinguished from the lymphoid corpuscles (*b*), though the exact nature of the intercellular substance, whether fibrillary or not, is difficult to determine with satisfaction. A normal kidney thoroughly injected through both vein and artery was employed in order to differentiate completely the vessels, with the corpuscles in their coats, from the sustentacular tissue or supporting substance proper.

8. *Corneal Tissue.*—There has been a great deal of discussion within the past few years as to the structure of the cornea, and the views of observers have differed according as they have confined their attention to the interlamellar spaces or to the bodies in them. The term *corneal corpuscles*, strange as it may appear, is even now used of the spaces by some of the best-known writers, and it seems evident that there is still doubt as to whether any real corpuscles exist or not. Recently, this subject has been restudied by Waldeyer, and we have been able to verify his conclusions in a very great measure, both as to the character of the corpuscles and the spaces in which they lie. These bodies appear, as stated by Waldeyer, to be in general flat, having a considerable amount of protoplasmic material about their nuclei (Figure 10), though in the direction of the periphery they gradually taper off into thin expansions, which are nearly homogeneous, and

Pl. II.

Fig. 3.

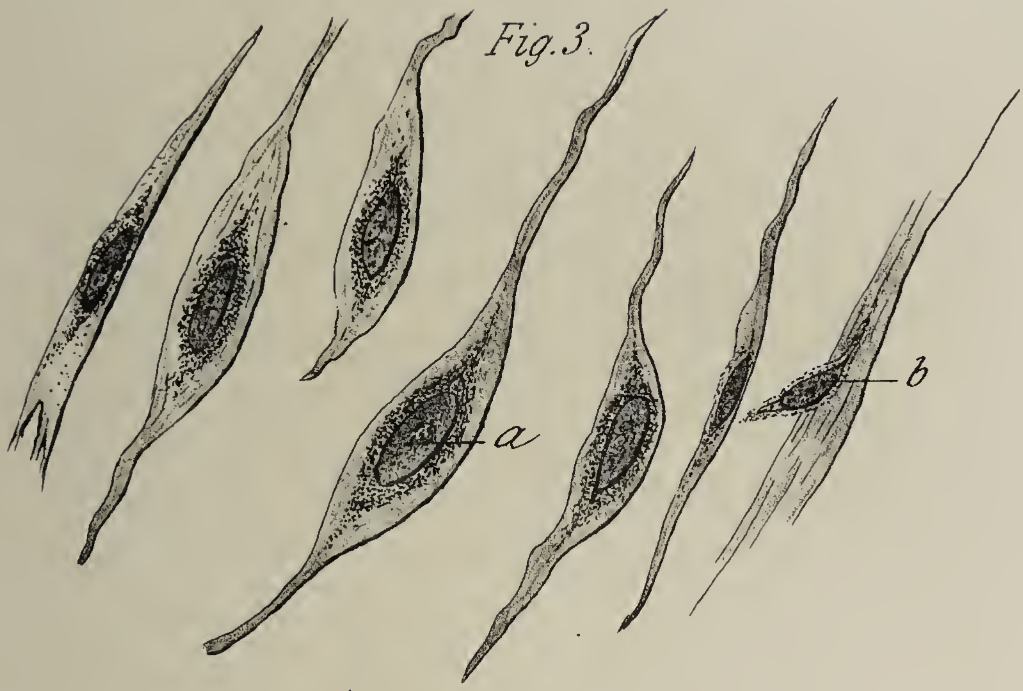


Fig. 5.

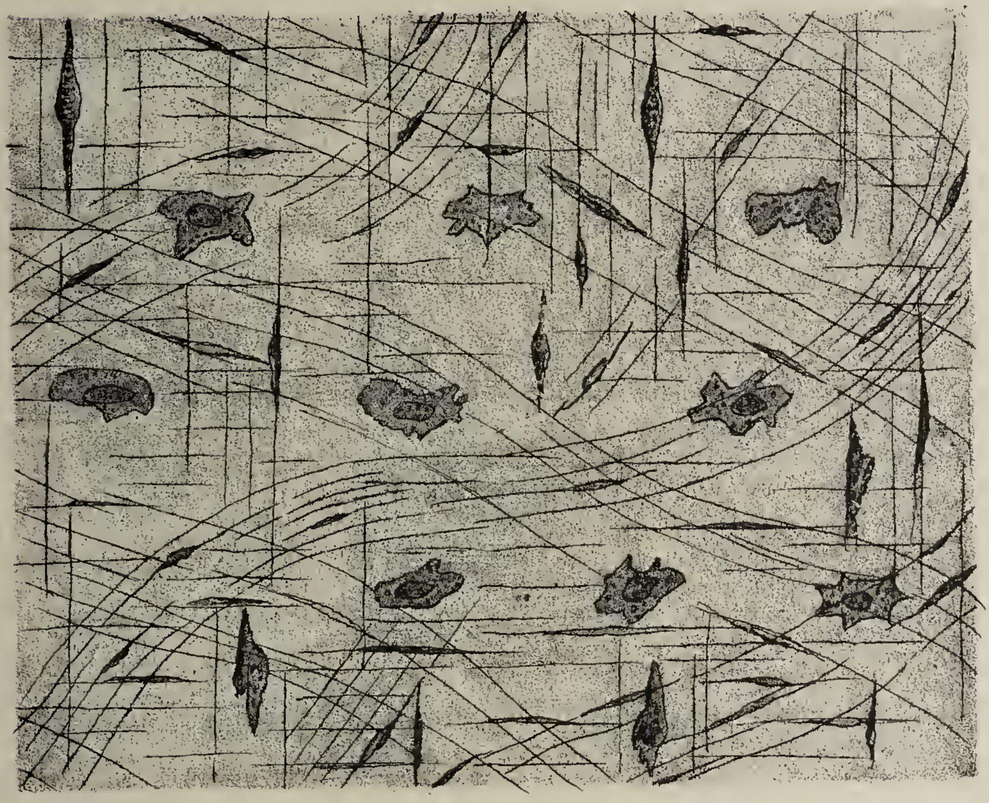
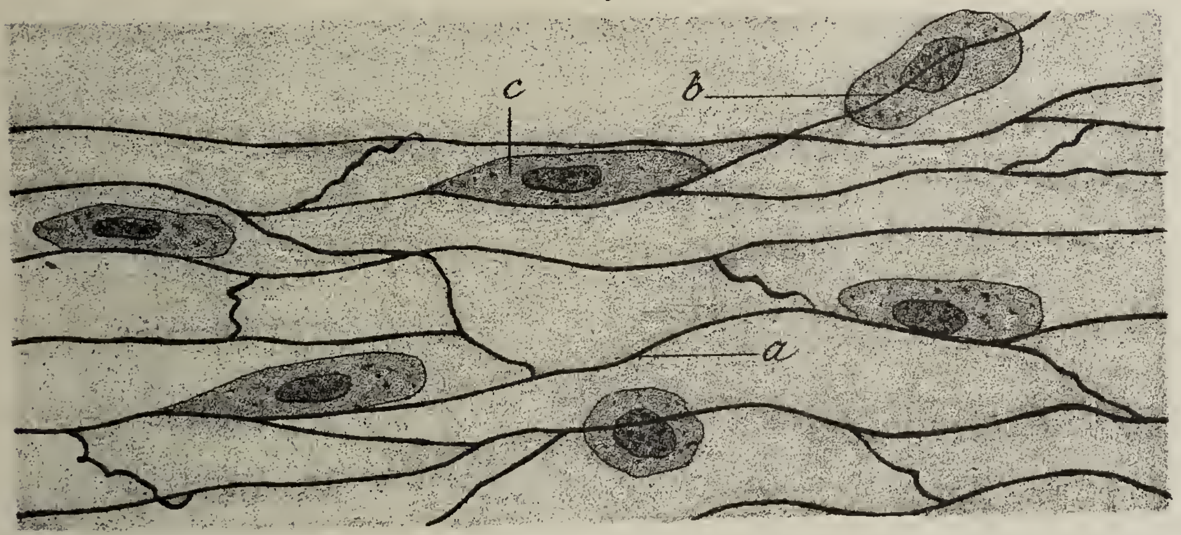


Fig. 8.



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extending from them are distinct processes which in part unite with those of other corpuscles and in part end blindly. In structure these corpuscles are not materially different from those of tendon tissue and the other varieties already mentioned. In them is the same flattened oval body, which seen on the side is rod-shaped (*b*), and is surrounded by an irregular envelope that assumes almost any shape. Thus the corpuscles are not always flat, though they are usually so. Their shape depends upon many different causes, such as the method of preparing the tissue, the amount of laceration to which it is subjected, etc. The best method of examining the cornea consists in preparing it by the gold method, already described.

After the tissue has been properly stained, which is known when it has taken a mauve or violet tint, the specimen may be allowed to stay in the sun; then thin lamellæ are to be torn off with the forceps, and mounted in dammar varnish or Canada balsam, after the tissue has been made thoroughly transparent by soaking in oil of cloves. It will then be seen that there are bodies within certain well-defined areas—the corneal spaces as they are called by Recklinghausen and others. These bodies are disposed at pretty regular intervals throughout the cornea and are generally flat, with rounded contours, though often they have processes extending from them in various directions. In the accompanying drawing the spaces may be distinctly seen as well as the variously-shaped corneal corpuscles; one (*c*) is crowded into the prolongation of a corneal space, while another (*b*) is connected by its processes with a neighboring corpuscle. One corneal space (*a*) is entirely empty. These differing conditions are in a measure due, probably, to the laceration of the tissue in preparing it, some of the bodies having been torn out and others forced to the side of the corneal space. There seems to be a pretty general agreement that the intercellular substance may be separated into independent fibrils, but upon this point I have seen no decisive proof. Dr. Thin, of London, has called attention to certain peculiar corpuscles which he has observed in the cornea, and which were different from the corpuscles already mentioned, and the lymphoid corpuscles also met with there (*Lancet*, February 14, 1873). Mr.

Priestley, in a recent number of the *Journal of Anatomy and Physiology* (October, 1875), has stated his experiences in looking for these corpuscles, but decides that they were probably epithelium from the anterior layer of the cornea. Dr. Thin seems to have suspected this at one time, but he tells us that he satisfied himself that he had not committed this error.

9. *Elastic Tissue* (Figure 8).—We have thus far omitted the discussion of elastic tissue for the reason that it is different from the other tissues already described, both microscopically and chemically, though often combined with them. It is also convenient to class it by itself for other reasons, chief of which are that its corpuscular elements have not yet been definitely shown in adult tissue. Virchow, some years ago, stated that this tissue, as well as other connective substances, was composed of networks, the substance of the fibres containing certain markings, and he inferred that these might be the corpuscles of the tissue. Elastic fibres were, however, according to him and others, nothing but the ordinary fibrous tissue condensed. Each fibre was hollow and capable of conveying the nutritive juices.

Henle in his earlier writings regarded the elastic fibres as originating from the nuclei, of which in fact they were prolongations. Subsequently, he seems to have believed that the fibres originated in the basis substance (*op. cit.*).

Reichert could not trace the connection between the nuclei and the elastic fibres, and, when the latter had formed, the former had disappeared.

Boll, however (*op. cit.*), distinctly states that the elastic fibres, each one constituting an "elastic cord," arise from the plate-like cells.

Ranvier (*op. cit.*) examined tendon tissue, as mentioned before, but he was only able to find the elastic fibres after boiling the tissue for from eight to ten hours. It is proper to remark, however, here that elastic fibres are very uncommon in tendon tissue, at least they have not often been observed.

The fibres of the elastic substance are pretty readily recognized by the fact that they are not colored by carmine or hæmatoxylin, and do not swell with acetic acid; they branch dichotomously, these branches forming, with similar branches of other elastic fibres, networks; this is the general form of adult elastic tissue, and it is probable that exceptions to this rule are, at the most, extremely rare; this form prevails in the ligamentum nuchæ of the ox, in the elastic coat of large arteries and veins, in the serous membranes generally, and in the subcutaneous connective tissue of the skin, as well as in the delicate intermuscular tissue already described. It will generally be found that where this tissue occurs in bundles it is not because there are no meshes, but rather because the meshes are compressed laterally, so that they are not apparent unless most carefully teased apart. When such fibres are broken off, their extremities curl up; further, the fibres are unaffected by boiling solutions of strong acids and alkalies, such as thirty-five-per-cent. solutions of caustic potash or nitric acid (standard preparations in common use in laboratories), unless the action is prolonged for a considerable time. These networks are beautifully shown by taking the mesentery of the frog in contraction and immersing it in acetic acid. The fibrillated connective tissue will swell up and become invisible, while the elastic fibres will be unaffected. The ligamentum nuchæ also affords an excellent opportunity for studying this tissue by itself. To render this study more easy the tissue may be allowed to remain a few days in a ten-per-cent. watery solution of common salt, and it may then be more easily teased. In the subcutaneous connective tissue of the skin the elastic fibres are well shown by hæmatoxylin preparations. Being unaffected by this staining solution they appear as bright, silk-like cords, which lie in close apposition with the wavy bundles, and the branches arch over the bundles to anastomose with corresponding branches of other bundles, so that in this way meshes are formed. Some writers have spoken of little knobs at the nodal points of the meshes, but these appearances appear to have been illusory.

Recklinghausen seems to have believed ("Cellular Pathology," 1871) with Virchow, that the elastic fibres contain peculiar nuclei of their own, which in adult tissue become extremely small, and are represented by the dark markings seen in such tissues. Thin, of London, claims (*loc. cit.*) that they originate in branching corpuscles, which by their coalescence form the network, and the remains of the nucleus may be shown by hæmatoxylin. These markings may, it is true, be seen in the ligamentum nuchæ of the ox, but it is doubtful whether they are nuclei or mere clefts in the tissue. Examination with such high powers as Gundlach's No. 15 immersion and Wales's one-tenth fails to clear up this point. We may now review these substances as a whole, and decide as to the characters they have in common. Elastic tissue, having a wholly different significance from the others, will be treated separately.

1. The most constant form that is met with in all these tissues is a somewhat flattened ovate or rhomboidal body that assumes the coloring matter deeply. It is found in each tissue we have enumerated. In some, as in the fibrillated connective tissue, it is often larger and flatter than in others, as the tendon tissue, but this difference appears to depend upon certain conditions which modify the original form. For example, when the tissue is young or inflamed, these corpuscles are larger, more vesicular, and closer together, and have better-defined edges; when, on the other hand, the tissue is older or in a state of comparative inactivity, as in ordinary health, these bodies are shrunken and irregular, and conform more to the precise locality in which they are placed; they are also further apart, and often are hard to discover at all—facts which serve to explain the statements of Waldeyer, who says that these corpuscles are often paddle-wheel shaped, and instead of consisting of *single* plates, as Ranvier says, they are made up of *many* plates, the paddles, which radiate from a centre. In examining these tissues with a lens of high power, such as the No. 8 of Hartnack's system, there will be no difficulty in detecting them in every instance, and there can be no doubt that the use of hæmatoxylin in these examinations has afforded us the best means of demonstrating many points which have previously been obscure. The particular reason of the advantage obtained by the use of hæmatoxylin lies in the fact that very often it obviates the use of alcohol and acetic acid, both of which distort the parts, and very often give rise to false appearances. It also chiefly affects the

plate-like bodies and only slightly tinges the delicate envelope, while it wholly avoids the rest of the intercellular substance. In this way we are able to employ a solution that differentiates the elements most excellently, in fact far better than carmine, and it is dissolved in water and not in acids or alkalies, which have peculiar actions upon all tissues. During the latter portion of this work use was often made of Hoffmann's violet, which was used as a substitute for the *violet de Paris* or methyaniline (Poirier) recommended by Cornil for showing waxy degeneration. It was dissolved in water in about the proportion of two grains to the ounce. In half an hour the nuclei were beautifully stained of a delicate violet, while the cell body and fibres were unaffected. The reaction was much the same as hæmatoxylin in regard to the tissue affected.

It is with the use of the two reagents that we may get the best ideas of the structure of connective substances.

2. Most of these plate-like cells which have often been called nuclei are invested by a delicate envelope, the body of the cell. This is mentioned by almost all recent observers, and was even spoken of by Henle long ago. This substance is seen to advantage in the reticular form of tissue (fibrous tissue) already mentioned, and is not so deeply stained by hæmatoxylin. When the tissue is expanded, this sheath or envelope is capable of being drawn out to great length, while, when it is separated from its connections, it shrinks, assuming the most irregular forms. When the plate-like bodies with their envelopes are attached together, they give the appearance of "spindle-shaped cells," a name often given to them. It may readily be imagined that the changes in form which such delicate envelopes assume may be manifold. In moist tissues they may swell, and in dry ones they may shrivel. It is the processes of such envelopes that often communicate, and the term "netted cells" has often been applied to them.

The theory developed by Heitzmann ("Über das Verhältniss zwischen Protoplasma und Grundsubstanz im Thierkörper," *Sitz. d. Wiener Akad. v. und h. Jahresbericht*, 1873), that the connective tissue of the umbilical cord, periosteum, and tendons, etc., demonstrates a continuous connection between the processes of the corpuscles, as he observed in cartilage, and is commonly seen in bone, could only be substantiated in a few instances. We have noted that, both in the cornea and in the mucous tissue of the umbilical cord and reticular tissue, there is such a connection to be sometimes seen, but at other times it is not seen at all, and this is the more difficult to understand, if the theory of a constant connection between these processes is tenable, for the method of preparing the cornea (tearing off the lamella) appears to give us a view of the corpuscles, or some of them at least in their proper connections, and the gold method defines them clearly. As we have seen, they are, however, only occasionally united. In the older forms of tissue, as in tendons, there was no such connection noted; indeed, in most of the tissues enumerated, the corpuscles with their delicate sheaths appear to be quite separate from one another.

In fat-tissue it seems, as we have already stated, that the delicate envelope takes up the oil, at first in minute globules, which by their union form larger ones and so finally completely fill up the sac. The flattened corpuscle, or "nucleus," that belongs to the tissue is unchanged, however, but takes its position in the side of the sac.

The second form of corpuscle that is frequently met with in all situations in the tissues is the round corpuscle already mentioned, and known as the lymphoid cell or corpuscle. It has often a pale, fleecy investment about it, which does not color with hæmatoxylin, or Hoffman's violet, or only slightly. Very similar bodies are often seen in close connection with the plate-like corpuscles, from which it often appears as if they originated from the latter. The third corpuscle similar to the one mentioned by Waldeyer and by Klein is also sometimes seen. It is large, about four or five times the size of a lymphoid corpuscle, and pretty globular in shape, and contains coarsely refracting bodies. These appear to be minute oil-drops, but whether these are the result of physiological or pathological change is uncertain. The adult intercellular tissue is made up of bundles of indefinite length. As for the bundles, each one is made up of separate fibrils which do not anastomose but run a parallel course. The fibrillar connective tissue, adenoid tissue, neuroglia and tendon tissue have this character clearly, while in the other forms it is not so certain that this is the case. The fibrils are held together by a firm cementing substance which can be dissolved by long immersion in Müller's fluid, or for a few days in a ten-per-cent. watery solution of common salt.

3. We can now study the relations of these parts to one another. It may be stated as a fact that is indisputable, that in all the adult tissues, excepting, perhaps, the supporting tissue of the kidneys and, of course, elastic tissue, and of the cornea, there are two principal substances met with, more or less flattened corpuscles and an intermediate fibrillar substance. The exact relation of the fibres to the cells has never been thoroughly stated of all these tissues, but it seems proper to conclude from the foregoing statements that in each instance the plate-like cells are superimposed on the fibres and form in this way, often, a partially investing sheath. The envelope which is the investing substance of the plate-like cells forms a bed upon the bundles to which they adhere very strongly. By their processes these envelopes anastomose with other adjacent bodies of like structures; they do not always anastomose, however, or do not appear to, and may be quite free. In the cornea they often unite and often do not, but, in so doing, they extend their processes through the channels which are supposed to convey lymph from the corneal spaces. Klein's view that netted cells form the network in adenoid tissue is untrue in many cases, judging from the observations that were made, for it was found possible to brush off many of the bodies, showing that they were on the tissue and not in it. These so-called cells were also seen by sufficiently high powers to be fibrillated, and therefore not "netted cells" but bundles of larger or smaller size.

Elastic Tissue.—1. There are no corpuscles that have been found in adult elastic tissue that can be positively shown to belong to it exclusively. In young tissue they certainly occur, according to excellent authorities, but they do not maintain their integrity long. Possibly higher powers than those in use may discover the bodies mentioned by Recklinghausen and Thin, but at present they elude our observation.

2. The fibres are cylindrical and branch dichotomously, and they exhibit an indifference to micro-chemical reagents that is not shared by others of the connective-substance group. They do not appear to be made up of fibrillæ, but each elastic cord is the ultimate element. They have no necessary connection with the other connective substances, and that they are not always present may be shown by boiling adenoid tissue and tendon tissue in the solutions of caustic potash before mentioned, when it will be found that these substances will dissolve entirely, which would not be the case if elastic fibres were present, for they resist the action of boiling acids and alkalies, as we have seen. We have stated that in the intermuscular tissue of the frog's thigh, which is extremely rich in elastic networks, there are numerous large and flattened corpuscles, which rest, apparently, upon broad and flattened plates of a fibrillated character, and here it often appeared as if the flattened bodies were continuous with the firm branches of the network. In other cases the elastic fibres pass directly over the plate-like body. Whether, however, there is a connection between them as Adickes (Archiv der Heilkunde, iv., 1872) claims, is difficult to determine.

The Development of Connective Substances.—Opportunities for studying this portion of the subject were given by the examination of different portions of the *umbilical cord* of an embryo of three months, also *cicatricial tissue* which had been removed from the face on the third day, from the *fibrous alveoli* of a cancer of the breast, and a *fibrous thickening of the scalp*, which developed rapidly from a bony tumor of the calvarium on which it lay (Figure 11). In the cicatrix removed on the third day, plate-like cells were found measuring from $\frac{1}{1200}$ to $\frac{1}{2000}$ inch in diameter, and surrounded by a nearly hyaline membrane.

The central body was about the size of a lymph corpuscle, and whenever fibres occurred they were arranged in parallel rows, and upon them were the flattened corpuscles surrounded by a hyaline substance. In one instance the central body was dividing. In examining the fibroma of the scalp, the bodies were seen to be plates (*b*), though ammonia-carmine did not show them, and it was not until acetic acid was used that they

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Fig. 6.

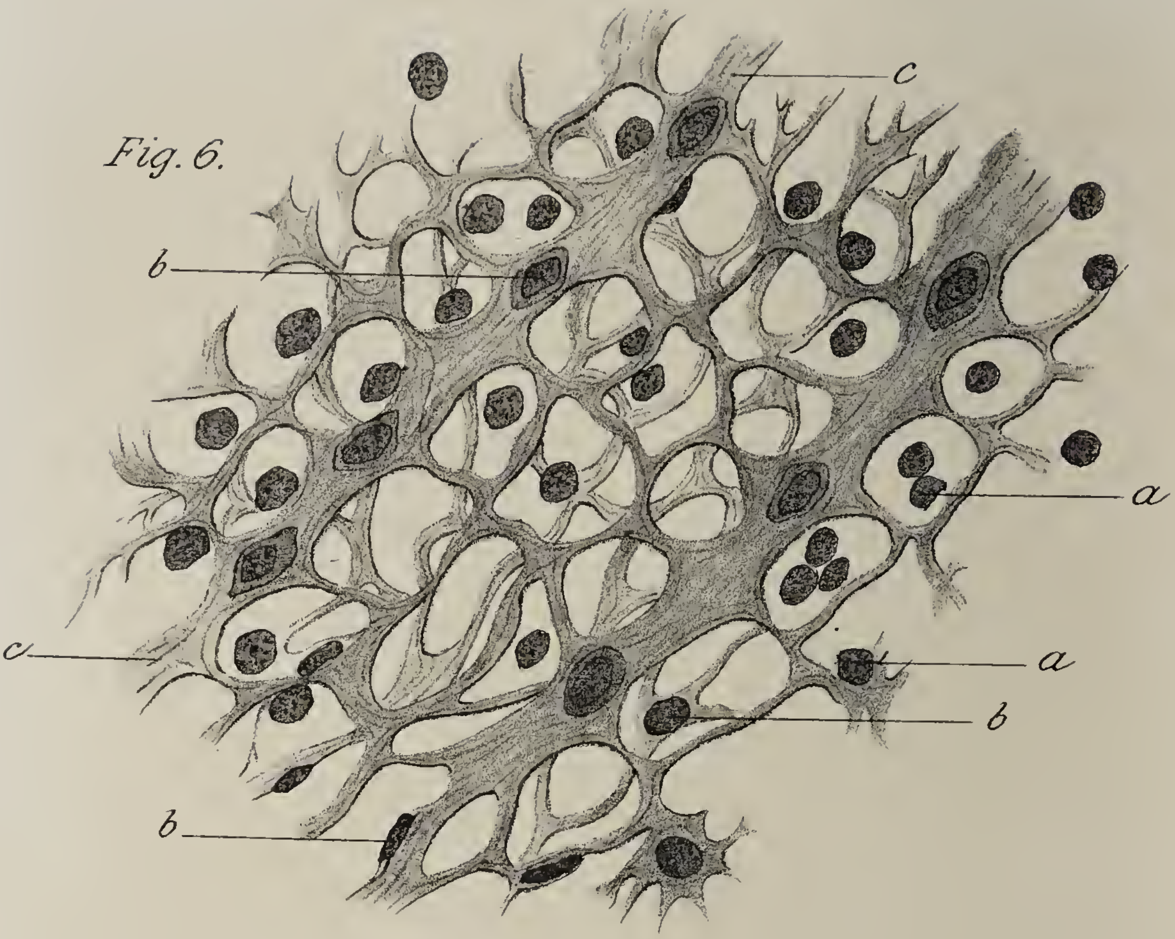

Fig. 7.

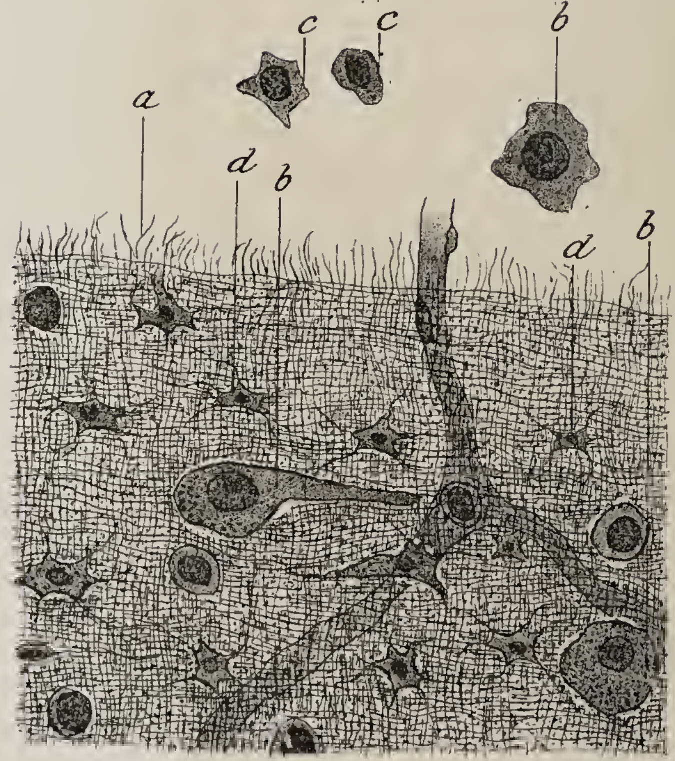

Fig. 11.

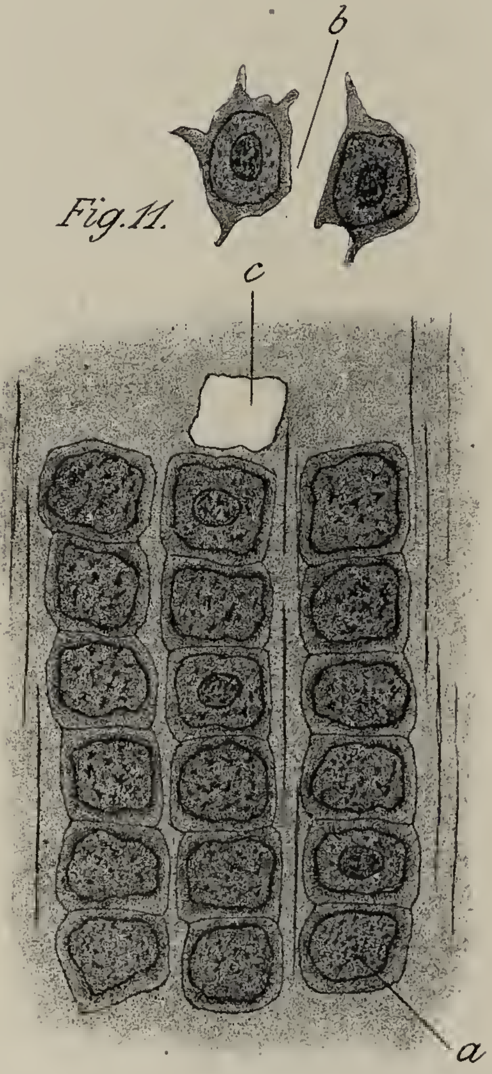

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Fig. 9.

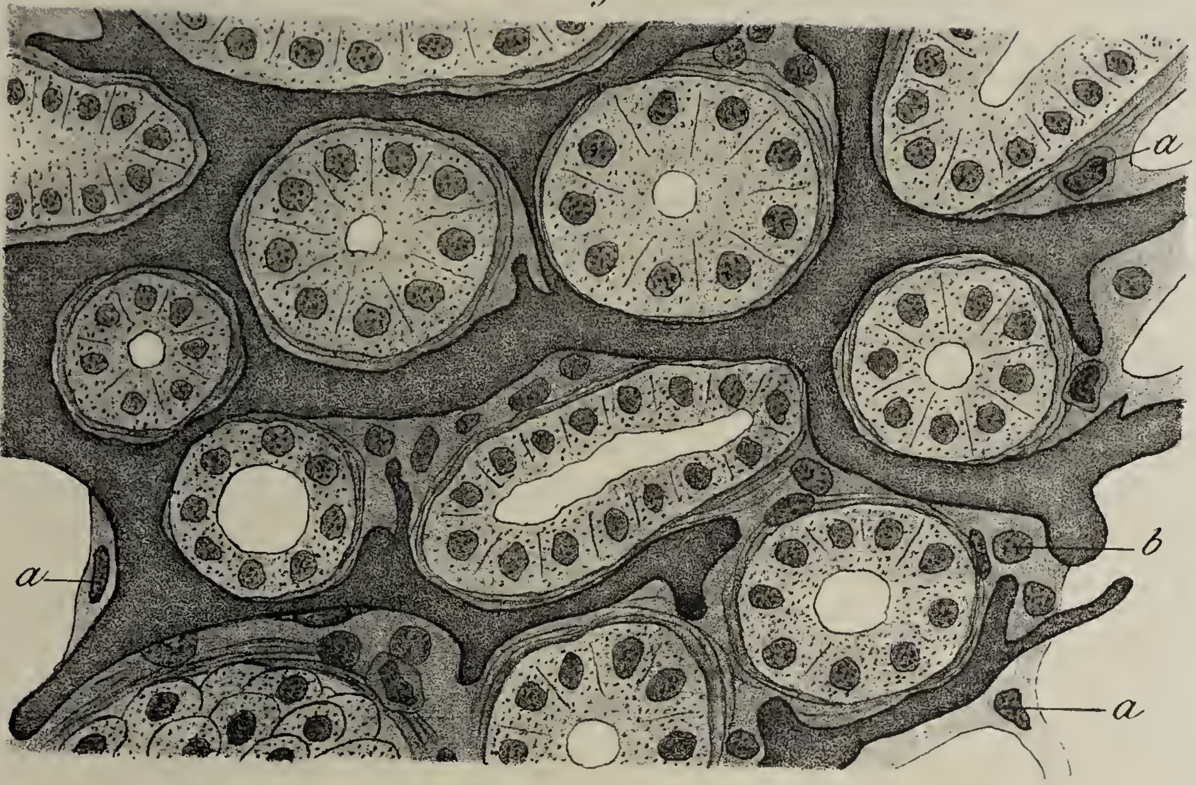
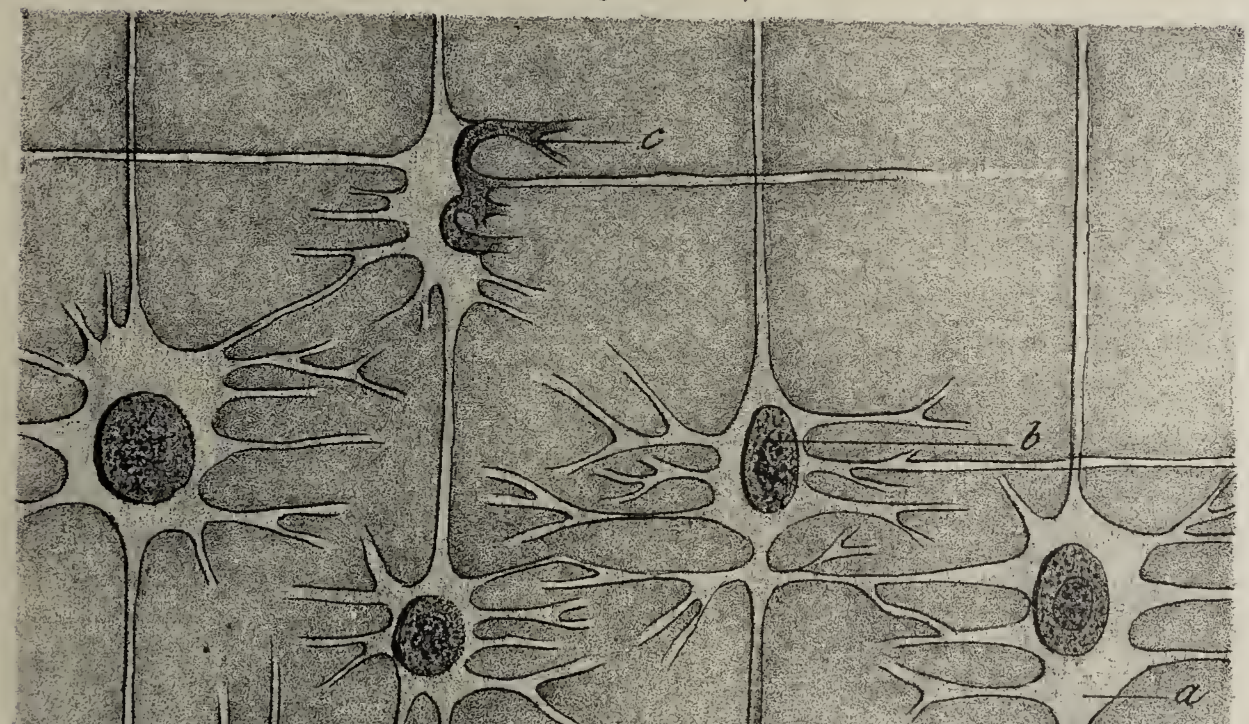


Fig. 10.



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became granular and in this way apparent. The intercellular substance was seen to consist of flattened ribbon-like laminæ tapering off at each end. It seemed as if fibres ran over these corpuscles and were continuous with the elastic fibres, but this appearance was by no means constant, and when gold was used these plates appeared, at the end of twelve hours, to be irregularly rhomboidal (Figure 11, *a*). In the alveoli of a growing carcinoma, the plate-like cells were also seen, but the intercellular substance did not give the uniform appearance of fibrillation, owing perhaps to its early age.

These specimens also afforded instructive testimony of the fact that there is apt to be great confusion in the use of the word "cell," for it may often be shown that the so-called spindle cells—by which are here meant some of the larger figures embraced under that name—are often not such at all. A good lens shows that the so-called spindle cell may be a thin ribbon-like portion of the intercellular substance that we have learned to know, upon which is the flattened corpuscle, itself surrounded by a more or less delicate investment, generally of a hyaline material. The gold method brings out these points in great perfection. Further proof in support of this statement may be gained by pressing such a spindle cell between the cover and the slide in the way already mentioned. The "nucleus," or flattened corpuscle, may then be made to drop off. The valuable results that follow from recognizing these points are, that they at once give us an insight into the structure of the so-called spindle-celled sarcomata or fibro-recurrent tumors which are formed of a tissue very similar to some of the connective substances already mentioned, for in describing them the very same error has often been committed as in calling the plate-like cells spindle-shaped. Any one who examines such a tumor in the way just described will have no great difficulty in demonstrating to himself that the so-called nuclei of the spindle cells are, in reality, very similar both in form and size to the plate-like corpuscles already described in the umbilical cord. These facts were elicited from the study of such a sarcoma, whose character was definitely established by its microscopical character and its frequent recurrence (five times). The younger portions were known to be such by the description given of them by the patient, for, the tumors being nodular, the age of each nodule was pretty nearly established. In the young portions the same plate-like bodies as are found in the umbilical cord, or bodies at least in general very similar, were found, but they were imbedded at intervals in a homogeneous material in which as yet there was no fibrillation. This portion was actually a young growth. Older portions were then examined, i. e., those known clinically to be older. It was then found that the intercellular substance had a fibrillated appearance and by suitable reagents it could be broken up into thin ribbons or bands, as by Müller's fluid or by a ten-per-cent. solution of common salt; numerous long spindle-shaped figures having a flattened body at their centre were then found; and there were also numerous similar spindle cells without any central body or "nucleus." Where, however, such appearances are observed it is easy to introduce a current, roll these bodies over, and then it may be seen that they are long, flattened, and of irregular size, appearing on profile view to be spindle-shaped, and yet we may often press off the "nuclei" by pressing the cover upon the slide, showing conclusively that such spindle cells are really the intercellular substance at an early stage of fibrillation, and almost precisely what may be seen in certain parts of the umbilical cord of young embryos as already described. It does not, however, follow from this that all of the spindle-celled sarcomata are of these varieties, indeed we sometimes see them where they appear to be composed of real spindle-shaped bodies, closely packed together, and where each body contains within it a smaller flattened body. From a study of these gradual changes it seems likely that, in growth and repair, the corpuscles at first *round* soon become *flattened*, and have a broad envelope (*b*). About this envelope there is a further delicate and lightly attached investment, which, uniting with the investments of other similar bodies, is the commencement of the intercellular substance. At first the plate-like bodies lie in niches, as it were, in the intercellular substances, and if one is brushed out it leaves a socket behind it (*c*). As the intercellular substance increases, the corpuscles are arranged in rows and they become smaller, while immediately under them thin laminæ are formed from the effused fibrin—the commencement of fibrillation—while the corpuscles are unchanged except that they become smaller, their envelope shrinking, and they recede from one another. In advanced life these corpuscles are generally more or less flattened, but their form is also considerably modified by the age of the tissues, and various mechanical alterations to which they are subjected, according to the particular locality in which they occur.

Art. II.—*Experimental Production of Anæsthesia by Cerebral Compression.*[1] By J. C. Dalton, M. D.

I have been interested, during the past few months, in a mode of producing anæsthesia in the dog, for experimental purposes, by means of cerebral compression. There are some experiments of long continuance, like that of opening the chest for observing the action of the heart, or that of inserting a canula in the thoracic duct for collecting the chyle, in which etherization is inconvenient, owing to the need of its occasional repetition. The injection of morphine or chloral hydrate into the blood-vessels requires much care and skill to be efficacious, and is very liable to cause death, if the drug be injected too rapidly or in too great abundance. Woorara is often very useful where it is desired to produce complete prostration of the muscular system; but its action is too energetic and uncontrollable to be relied on where the life of the animal is to be preserved after the operation.

For these reasons I have been induced to try the effect of mechanical compression applied to the brain, through an artificial opening in the skull. The dog is a favorable subject for such an operation, owing to the ease with which a convenient spot on the cranium may be exposed for this purpose, and pressure applied to the brain without danger to life. The operation has been found decidedly useful as a means of inducing anæsthesia, and it has also proved of direct interest for studying the local and general effects of cerebral compression.

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[1] Read before the New York Society of Neurology, May 15, 1876.

The mode of operating is as follows: The animal is etherized, and when fully unconscious an incision is made along the vertex, in the median line, from the forehead to a little behind the occiput, and thence in a transverse direction for about one-half its former length toward the right or left side, according to the choice of the operator. The triangular flap of skin is then dissected up and the skull exposed on the corresponding side by division and separation of its muscular covering. A trephine with a cutting crown about eighteen millimetres in diameter is applied to the most rounded and prominent portion of the bony surface, and a circular opening thus made in the skull at that part. If hæmorrhage occur from the cranial vessels, it may be arrested by compression with cotton-wool, applied continuously for some minutes. The dura mater covering the brain at the situation of the opening may be either removed or left in place. If it be removed, the pressure is applied directly to the cerebral convolutions and perhaps exerts its full effect more rapidly; if it be left in place, the animal probably recovers more easily, when kept alive after the operation.

When the opening in the skull is completed, the animal is left at rest, until the effects of etherization have so far passed off that he is capable of voluntary motion, and the degree of sensibility present may be determined by the usual means. As soon as this condition has been reached, pressure is applied to the brain and gradually increased until all voluntary movement and signs of sensibility are abolished. The pressure is then maintained at that point, and any further experimental operation which may be desired is proceeded with. There are several points of interest noticeable in this connection.

I. *The Amount of Cerebral Compression needed to produce Insensibility.*—If compression be made by introducing the finger, through the trephine opening, into the cranial cavity, in a dog of medium size, the middle finger may be inserted for a distance of one and a half centimetre, or the index-finger for two centimetres, before quiescence and insensibility are complete. In one instance the middle finger was introduced for nearly two centimetres (fully three-fourths of an inch) and held there some minutes with all the available strength of both hands, without stopping respiration, or producing any other marked effect than deep insensibility. The force required for compressing the brain in this way is nearly always so great that it becomes fatiguing, when continued for several minutes. For this reason a wooden staff of cylindrical form, just large enough to pass readily through the orifice made by the trephine, may be conveniently substituted for the finger as a means of compression. Its internal extremity is slightly rounded, its outer end flattened for convenience of manipulation by the fingers of the operator. Such a staff may be marked in degrees, from its rounded extremity upward, to show how much of its volume, at any moment, is inserted in the cranial cavity. After the experiment, if the animal be killed and the encephalon removed, the proportion in volume between the encephalon and the compressing body may be determined. In this way I have ascertained that the volume of a foreign body inserted into the cranial cavity, in the dog, so as to produce complete insensibility without stoppage of respiration, is from five and a half to six per cent. of the volume of the entire brain.

It is probable that this estimate would not hold good for the human subject, owing to the difference in proportion between the cranial and spinal cavities in man and in the dog. The first effect of introducing a foreign body into the cranial cavity is, no doubt, to expel more or less completely the blood and subarachnoid fluid of the brain, of which a considerable part is crowded into the spinal canal; and the larger the cavity of this canal, in proportion to that of the cranium, the greater the volume of the foreign substance which may be introduced before exerting serious compression upon the brain substance. In the dog, the cavity of the spinal canal is considerably larger, as compared with that of the cranium, than in man; and yet the amount of cranial compression which may be applied seems, even in this animal, unexpectedly large.

II. *The Readiness with which Consciousness is restored after Removal of the Compressing Force.*—An animal rendered insensible by a wooden staff, or the finger of the operator, deeply inserted in the cranial cavity, lies outstretched, with the limbs relaxed and motionless, the eyes closed, and the respiration easy and natural, sometimes accompanied by an occasional vocal sound in expiration. If the compressing force be now removed, the animal will often at once recover consciousness and the power of voluntary movement to such an extent as to rise spontaneously into the standing posture, and use his limbs in locomotion, so that he has to be restrained by the operator. This recovery seems to be simultaneous with the return of the encephalon to its normal dimensions. When the brain of a dog is first exposed, it usually projects a little, in the orifice made by the trephine, above the level of the inner surface of the bone. After compression has been exerted, and the compressing force removed, the cerebral surface is of course depressed at that point to a corresponding degree. It immediately, however, begins to rise; and, when it has again reached the level of the bone, the signs of consciousness and volition reappear. The loss of sensibility is, therefore, coincident with the expulsion of the blood, in a certain proportion, from the cerebral vessels; and its restoration takes place as soon as the circulation is reëstablished in its normal volume.

This restoration of consciousness occurs, as a general rule, with but very little delay, even after it has been suspended for a considerable time. In one instance a dog, which had lain motionless and insensible for twenty minutes, with four and a quarter cubic centimetres of the wooden staff inserted in the cranial cavity, in two minutes after its withdrawal was again standing upon his feet in a natural attitude. A renewal of the compression, in such cases, will again produce insensibility, and its withdrawal again be followed by recovery. This has been done repeatedly, insensibility and recovery alternating with each other, in the same animal, many times in succession. If the dura mater, however, be left in place, the subsequent recoveries are less complete, and after a certain number of repetitions the animal may at last continue unconscious, notwithstanding the permanent withdrawal of the foreign body. In these cases the apoplectic effusions which have taken place, and which are confined by the dura mater, when they become excessive in quantity no doubt serve to keep up the compression, and thus interfere with the circulation in neighboring parts.

If it be intended to subject the animal to a subsequent experimental operation, compression may be most conveniently kept up by inserting into the cranial cavity a plug of cotton, the quantity of cotton being gradually increased until the requisite effect is produced. It is then maintained at this point by means of a narrow plate of thin brass, a little longer than the diameter of the trephine, the two ends of which are slipped under the edges of the bone at the circumference of the opening, thus confining the cotton in its place at a uniform pressure. If the pressure, however, thus made, be too great, it is liable to cause fatal disturbance of the respiration or circulation. It must, therefore, be very carefully graduated; and, when insensibility is complete, the brass plate should be inserted in such a way as not to increase the pressure, but only to maintain it at the same point.

III. *Immediate Effects of Intra-Cranial Compression.*—Contrary to what might be expected, the first effect of pressure applied through an opening in the skull is to produce pain. There is no doubt of this, from the resistance and cries on the part of the animal nearly always excited at this time; and, although they disappear at once under increased compression, it is evident that a moderate pressure has the effect of causing pain, or at least excitement and reaction. These signs of irritation have sometimes appeared more marked in cases where the dura mater had been left entire than in others where it had been removed; but this rule is not constant, and, on the whole, I am unable to say that the presence or absence of the dura mater at the point of compression has any well-marked influence on this particular symptom. It is possible that this membrane may be the seat of the irritation, owing to its supply of nerve-filaments from the fifth pair; and, even when removed at the situation of the wound, it may feel the pressure communicated generally to the inner surface of the cranial cavity. On the other hand, the effect in question might be attributed to the pressure exerted on all the sensitive nerves in their course within the cranium at the base of the brain; but, in that case, we should expect the same pressure on the accompanying motor nerves to produce local convulsions—a result which I have never seen in any instance.

IV. *Local Effects of Compression upon the Brain.*—Pressure applied to the brain, in the situation indicated above, with sufficient force to cause insensibility, produces substantially the same local effects, whether the dura mater be previously removed or not. The most marked and constant of these results is a softening or disintegration of the brain-substance, in the posterior lobe of the cerebral hemisphere, immediately beneath the point of pressure. An experience derived from eight similar observations leads to the conclusion that the pressure, in order to secure insensibility, must be sufficient to produce such disintegration; and yet the immediate cause of the insensibility is not the disintegration of the cerebral tissue, but its compression. This is proved by the fact that the insensibility disappears, as above stated, on removal of the compressing force, although its disintegrating effect remains. Another result usually produced is apoplectic hæmorrhage in the softened cerebral tissue, and also into the lateral ventricles when their walls have been included in the disintegrated portion. This hæmorrhage, for the most part, is not due directly to the compression, and does not apparently take place during its continuance; but occurs afterward, on the withdrawal of the compressing force, from the cerebral blood-vessels having lost their normal support. If the pressure, by means of the finger or a wooden staff, be applied and withdrawn several times in succession, and the animal be then killed, the brain will show recent loose bloody clots in the softened portion of its substance, in the arachnoid cavity on its surface, in the lateral ventricles, or in all these situations. But if the pressure be made by a plug of cotton, steadily increased to the requisite point, and there maintained without variation until the death of the animal, though there may be spots of punctiform apoplexy, more or less disseminated in the brain-substance, there are no loose clots, and even the softening of the cerebral tissue may be imperceptible. The primary condition, therefore, and the only one which appears to be directly active in suspending the functions of the brain, is its compression. The softening and the hæmorrhage are both secondary effects, which may be present or not, according to circumstances.

When the trephine has been applied, as above indicated, to the most prominent bulging portion of bone on the side of the skull, and pressure made either by the finger, the wooden staff, or a plug of cotton, the direction of the pressure is downward and inward, through the substance of the hemisphere, toward the tubercula quadrigemina of the corresponding side, and the posterior part of the optic thalamus. In most instances the corresponding tubercula quadrigemina were found on dissection to be visibly flattened out by the pressure exerted, while those on the opposite side retained their natural rounded form. In one case the cotton plug had found its way quite through the substance of the hemisphere, its inner extremity resting upon the posterior portion of the fornix. The optic thalamus immediately beneath was perceptibly flattened, and even that on the opposite side slightly pushed away from the median line. In no instance was there any apparent deformation or other injury of the corpus striatum.

V. *Effects of Cerebral Compression on Respiration and Circulation.*—In a dog under the influence of cerebral compression carried to the point of insensibility, respiration and circulation are not seriously disturbed. The respiration is usually easy, regular, and moderately full. Its frequency varied, in the different cases observed, from twelve to twenty-eight per minute. The pulse, which was always of good strength, varied in the same cases from seventy-eight to one hundred and twenty per minute ; but its variation in rapidity did not correspond especially with that of the respiration. In one instance the pressure made by a plug of cotton was increased beyond the point of tolerance, and made permanent by insertion of the brass plate. Immediately afterward the respiration was profoundly disturbed, irregular, and nearly suspended. It subsequently again became more regular, but weaker and less frequent; the pulse at the same time rising to two hundred per minute and failing in strength. Death ensued, without further symptoms, at the end of twenty minutes. In this case there were numerous small apoplectic points scattered through the substance of the medulla oblongata, and upon its surface at the floor of the fourth ventricle.

VI. *Recovery from the Effects of Cerebral Compression.*—The operation above described does not necessarily cause the death of the animal. A dog, trephined on the left side of the head (April 10th), the dura mater being left entire, was rendered insensible by insertion of the wooden staff, and kept in a condition of complete insensibility and unconsciousness for half an hour. At the end of that time the staff was withdrawn, when the animal at once recovered sensibility, and the wound was closed by suture. In three days the appetite had returned and locomotion was performed in a natural manner, but there was complete blindness of the right eye, no doubt from compression of the tubercula quadrigemina on the left side. At the end of a month this symptom had disappeared, vision being again perfect in both eyes; and the animal was in all respects restored to its natural condition of vigor and activity.

ART. III.—*An Improved Laryngoscopic Apparatus.* By J. O. ROE, M. D., Rochester, N. Y.

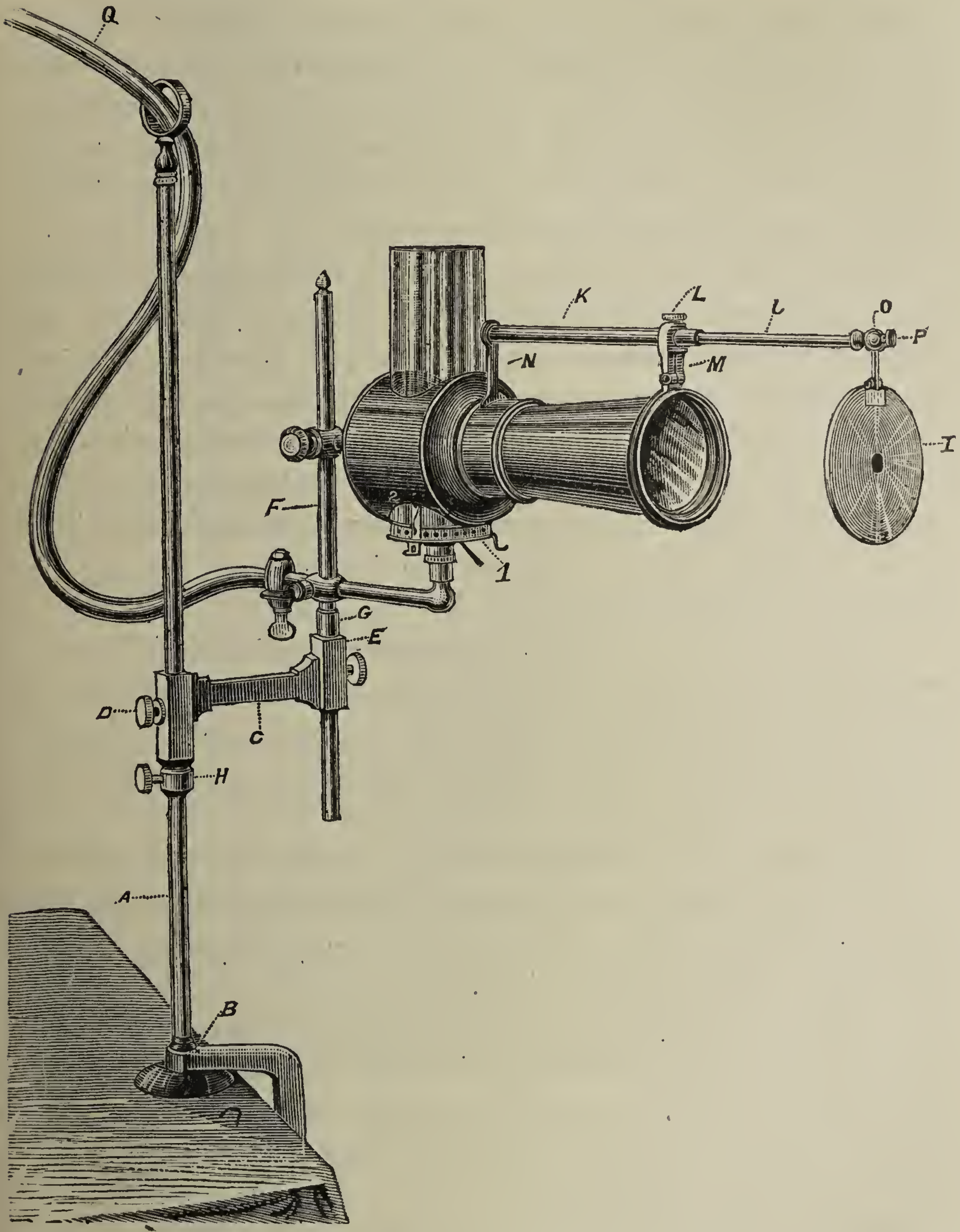
THE cut below represents a laryngoscopic apparatus which I had constructed for my own use more than a year ago. It being different from, and at the same time more convenient than, any of the modifications of Tobold's apparatus now in common use, I thought the publication of it might be of some interest and benefit to the profession.

My apparatus, as represented in the cut, consists of a main perpendicular standard (*A*), which is fastened to the table by a clamp and set-screw (*B*). Fitted to this standard is a sliding arm (*C*), with a set-screw (*D*), by means of which it can be adjusted to any required height.

Through the outer end of this arm, at (*E*), passes a second perpendicular rod (*F*), having a collar at (*G*), which rests upon the arm, permitting the rod to rotate readily, but preventing it from sliding through.

To the upper portion of this rod are attached the argand gas burner (1) and the lens-tube (2).

From the above description it will be seen that each perpendicular rod (*A* and *F*) is permitted to revolve in its respective end of the arm (*C*), thereby making, as if it were, a double joint. And the advantages gained by this are: 1. The light from the instrument may be directed toward any given point from any point within the circle of which this arm is a radius, and not from a certain point only, as is the case where there is only one perpendicular rod. 2. Instead of requiring the



patient to move to the right or to the left, so as to be directly on a line with the reflected light, the instrument can be moved at will, by means of the double joint, to twice the length of the arm.

To further facilitate the working of it, I placed a sliding collar (*H*), with a set-screw, on the standard below the arm. This collar supports the arm, thereby avoiding the necessity of tightening the screw in it, except while performing operations, when it is desirable to have it fixed, that a slight accidental push might not displace the light.

For ordinary use the collar (*H*) may be dropped to the base of the standard. Then, by grasping the outer portion of the arm the whole apparatus can be more readily raised, lowered, or adjusted to any position, and the apparatus, being entirely suspended from one side of the standard, is retained in its place by the slight binding force which its leverage gives.

Another advantage this arrangement affords is, that it requires but one hand to adjust the instrument, leaving the other hand entirely free.

I also made an improvement in the attachment of the reflector, by suspending it from above in such a manner as to facilitate its adjustability, and at the same time to dispense with the long arm of the original apparatus, which was constantly in the way of the operator.

By reference to the cut it will be seen that the reflector (*I*) is held in position by the rod (*J*), which slides snugly into the tube (*K*), and can be fastened at any point by the set-screw (*L*). The tube (*K*) is supported by a standard at each end (*M* and *N*), attached to the lens-tube. The reflector is attached to the rod (*J*) by means of a ball-and-socket joint (*O*), allowing it to be set at any angle, and can be held rigidly, when desired, by means of the set-screw (*P*). *Q* is the gas-pipe feeding the apparatus.

The advantages derived from attaching the reflector in this manner are: 1. The reflector is always on the line of light coming from the lens-tube, and cannot be displaced by any accidental touch. 2. The ball-and-socket joint allows the light to be thrown in any angle without moving any other portion of the instrument. 3. The reflector can be moved to any distance from the lens-tube, so that the focus of the reflector will exactly correspond to the distance of the patient from the mirror, and also without changing the direction of the angle of light.

Thus it will be seen, while making ordinary rapid examinations of or applications to the throat, the whole apparatus can be moved by one hand with the utmost freedom, and adjusted to any position without requiring the turning of a single set-screw; or, when about to perform an operation where fixation of the light is desired, the whole apparatus can be made perfectly rigid by simply turning four set-screws, and the operator can proceed without fear of his efforts being aborted by the accidental displacement of some portion of the instrument.

Clinical Records from Private and Hospital Practice.

I.—*Three Cases of Placenta Previa.* By Thomas J. Gallaher, M. D., Pittsburg.

Mrs. G., residing four miles in the country, had a severe uterine hæmorrhage on the 8th of January, 1866. She was then pregnant a little over six months. The hæmorrhage soon ceased spontaneously, but a slight show of blood appeared from time to time on her taking exercise.

On the evening of February 7th she sent for me in consequence of a return of the bleeding. This time it was quite severe, but unaccompanied by labor pains. When I arrived, the flooding had ceased and the patient felt comfortable. The os was now sufficiently dilated to permit the passage of the finger into the cavity of the uterus, when the placenta, partially separated, was felt opposite the uterine orifice. It was now plain that I had to do with a case of placental presentation in which the placenta was centrally implanted over the internal os.

After waiting some hours, during which there was neither hæmorrhage nor pain, I left for home, with directions to send for me as soon as flooding or labor pains appeared.

The next afternoon, February 8th, I was notified of a return of flooding. I saw her at 4 P. M. This time the hæmorrhage was more copious than at any of the preceding attacks. The blood had run through the bed and spread over the floor, while a large clot was found on the sheet. At the time of my arrival she was not losing blood, but was in active labor, with good pains. The os uteri was well dilated, the vertex engaged in the superior strait, and the placenta, perfectly detached, occupying the vagina in advance of and in contact with the head.

The patient was then quiet, pale, and exhausted, but the pulse retained considerable strength and fullness; stimulants in small quantities were given her. The placenta was soon removed, when the head began to descend. In less than ten minutes the child was born; of course, dead.

The child was thin and flabby, and had the appearance of having been badly nourished, and dead a few days. The patient, however, thought she had felt feeble motions of the child the day before. There was no succeeding hæmorrhage; the womb was now contracted firmly, the pulse had reasonable strength, and the patient felt comfortable. She was now bandaged. I felt rejoiced that the case had proceeded so well for the mother, but my hopes for her recovery were soon blasted. In less than half an hour after delivery, the patient began to sink. She became pale, and the pulse feeble, contracted, and irregular. There was no hæmorrhage, external or internal, no difficulty of breathing, no pain; nor had any injury happened the womb. Her condition now seemed alarming. I immediately lowered her head, elevated the feet and hips, tightened the bandage, and gave freely of stimulants, etc., but all in vain; the patient died within three quarters of an hour after the birth of the child, her mind remaining clear to the last. There were no convulsions. From the gradual manner in which she sank, and from the absence of all depressing discharges after the birth of the child, it seemed certain that the patient died more from shock than from actual loss of blood.

Case II.—Mrs. K., the mother of five children, was taken in labor, May 30, 1872. She had had a severe hæmorrhage about four weeks previous, which had stopped without treatment on keeping the bed; and, just four days before confinement, there was a renewal of the flooding, which also ceased spontaneously.

In both instances it was unaccompanied by pain. At the time of labor the discharge of blood was not very profuse. On my arrival, the pains were good and regular, and the os partly dilated. The margin of the placenta could be distinctly felt opposite the os. It was a case of partial placenta previa with breech presentation—the sacrum of child to pubes of mother. The breech was soon engaged in the superior strait, and slowly began to descend. In two hours the child was born. It was still-born. The placenta came away without trouble, and the uterus contracted; not much blood lost after delivery; none during the descent of the child. Mother had a good recovery. The placenta was irregular in shape, thin, and large.

Case III.—I was called on the 31st of December, 1875, at 11 o'clock at night, to see Mrs. C., who was said to be flooding profusely. The lady was 23 years old, pregnant with her second child, and had completed the seventh month of gestation. She is a healthy and tolerably well-developed woman. The hæmorrhage could not be attributed to fright, severe mental exercise, physical exertion, or injury of any kind. It came on during the night, while she was lying quietly in bed, and was unaccompanied by pain. The patient had lost considerable blood before I arrived, and was still flooding copiously. The finger readily passed the os externum into the cavity of the cervix as far as the internal os, but the latter orifice was not sufficiently dilated to admit of its further advance without using more force than it was deemed at the time prudent to employ. From the painless and causeless character of the hæmorrhage, taken in connection with the period of gestation at which it occurred, I felt satisfied that there was before me a case of unavoidable hæmorrhage from placenta previa.

The patient was placed upon her back, and the vagina thoroughly plugged with cotton-balls, six in number, each one double the size of a hulled walnut. These were secured by a T-bandage. Quietness was enjoined, and one-sixth of a grain of morphia injected hypodermically. January 1st, next day, the tampon was removed, no hæmorrhage following. The patient was advised to keep quiet several days, and avoid hot drinks, etc. Several balls of cotton-wool, tied up as above described, were then placed within her reach, and she was instructed to introduce as many of them into the vagina as she could, as soon as an alarming hæmorrhage returned.

January 6th.—Bleeding returned with great violence, and I was sent for in haste. The patient herself had securely plugged the vagina with the balls before I arrived, and had thus effectually checked the discharge. As many as nine balls had been pushed into the vagina; these were removed in 12 hours.

13*th.*—Another gush of blood occurred this morning, which was also arrested by the patient with the cotton tampon.

On the morning of the 18th another sudden flow of blood from the vagina announced a return of her troubles. This time it was soon followed by labor pains. The cotton pledgets had been inserted as usual, but in consequence of the uterine contractions they failed to arrest completely the flow. More or less blood, apparently deprived of its fibrin, would ooze out from between the labia and stain the compress.

As the labor pains were now quite severe and frequent, occurring about every five minutes, and expulsive in character, I thought it best to remove the tampon and learn the condition of the parts.

A careful digital examination showed the entire disappearance of the cervix and partial dilatation of the os, probably to the size of a silver half-dollar.

My two fingers were now able to reach the cavity of the uterus, when the external surface of the placenta could be felt occupying a position directly opposite the expanding uterine opening. It was found separated from its attachments immediately around the os, and when a pain occurred the placenta filled the entire opening. Blood was expelled at each uterine pain. As the first stage of labor was now rapidly advancing and the flow of blood considerable, I was compelled to reinsert a cotton tampon and await the further progress of the case. Meanwhile I injected one-half grain of morphia into the arm.

There was no abatement in the frequency and severity of the pains, while some thin blood continued to escape from the vagina. At the end of two hours I presumed the uterus was fully dilated, and therefore proceeded to remove the vaginal plug. The dilatation was nearly sufficient to admit the entrance of the whole hand into the cavity of the uterus. It was probably three and a half inches in diameter. By gentle continuous pressure my hand soon entered the cavity of the uterus. At this time the placenta was found entirely detached from the left side of the uterus, but still adherent to a portion of the right. The implantation had been central.

I now passed my hand between the placenta and walls of the uterus on the left side until the thin membranes were reached, and on rupturing these I found a foot presentation.

The feet were soon seized and brought down, and, as the breech of the child was brought through the cervix, a portion of the loose placenta descended with it and occupied the opening on the right side. The placenta was now partly within and partly without the uterus, and from this position it could not be dislodged till the child was born. Its presence greatly retarded delivery of the child.

At this time Dr. J. H. Snodgrass came to assist me.

The labor pains continued pretty good, while the descent of the child through the pelvic cavity was gradual. Some time before the birth of the child, half an ounce of vin. ergotæ was given to secure subsequent uterine contractions.

At one o'clock P. M., just one hour after the membranes were ruptured, the lady was delivered of a still-born male child of nearly eight months. The placenta was found loose and in the vagina, and the uterus contracted.

During the passage of the child and after its delivery there was no hæmorrhage.

As the patient had lost considerable blood from time to time, and had therefore become greatly exhausted and anæmic, good whiskey-and-water, in small and frequent doses, was given her during the progress of the labor. The mother had a pretty good recovery, though the effects of the great loss of blood are still perceptible by her pallidity of countenance and general weakness.

It will be observed that in two of these cases the insertion of the placenta was central, in the other partial. In the two former the births were premature, in the latter the child had arrived at or nearly at maturity. The hæmorrhages were more severe in the central than in the partial form of this presentation. In Case I. there were three hæmorrhages; in Case II. there were two before labor commenced, all of which ceased spontaneously on keeping the bed; in Case III. the bleedings were so copious and sudden as to endanger life at each attack. Here the tampon proved a most effective measure. Placing the cotton-balls within reach of the patient or a good nurse proved an admirable proceeding, for by it the patient was enabled to introduce the tampon herself on the first appearance of the eruption, thereby saving much blood, if not her life, and thus enabling her to pass with safety through the critical and dangerous process of labor.

The mortality among mothers in the above cases was the usual average, namely, one-third.

The one that proved fatal was no doubt beyond the reach of hope before I arrived, for no loss of blood happened after my arrival. I was unable to determine positively whether this patient died directly from the loss of blood or from nervous shock.

As to the mortality among the children, this, it must be admitted, was great. In Case I. the child was certainly dead before I arrived; while in the other two they perished in consequence of detention of the shoulders and head in the superior strait after the body had passed through. In each case, while the mother was healthy and otherwise well developed, the cavity of the pelvis was small and permitted of a slow descent of the fœtus.

When this condition is associated with a foot or breech presentation it is alway dangerous to the life of the child, even if no placental complication exists. In these cases we can safely assert that the mortality is indirectly to be ascribed more to the faulty position of the child and the small maternal pelvis than to the placental abnormity.

The number of malpositions occurring in these three cases exceeds what has been observed by Simpson, Churchill, and others, for here we have two preternatural to one natural presentation of child; of the former, one was a foot and the other a breech.

The average number of placental presentations occurring in my practice is one in every nine hundred and fifty cases. This statement as to the relative frequency of placenta prævia does not agree with those made by Collins, Madame Boivin, and Clark, for these writers, whose statistics are taken from the records of lying-in hospitals, make the average much less. It may be remarked here that the experience of private practitioners as regards this matter is more reliable than that derived from hospital practice, for the greater number of such cases are seen in private practice, since hæmorrhage and delivery occur at such an early period of pregnancy that their admission to hospital wards is uncommon.

The early evacuation of the waters, the use of Barnes's dilators, and the other numerous procedures which have been recommended from time to time to check unavoidable hæmorrhage, I did not think proper to employ. Case III. was the only one in which any of them could have been used; but, hoping to save the life of the child by lengthening the period of its retention within the womb, I preferred the tampon, which answered admirably every purpose. The mere stoppage of the hæmorrhage, however, was not sufficient to save the infant's life.

II.—*A Singular Case of Malarial Disease.* By J. B. CUMMINGS, M. D., Forest City, Arkansas.

Mary P., aged 18, of leuco-phlegmatic temperament. Has always enjoyed good health, except a slight headache, of which she sometimes complains. This she has had for several years. Her parents considered it of so little moment that they never sought medical advice. The patient's mental powers are more than ordinary. Her present illness began suddenly, with a severe convulsion. From the mother I obtained the following history: The girl had been complaining of headache during the day, remarking, "I feel worse than I ever did in my life." At noon she sat down to dinner and ate moderately. This malaise continued until three o'clock, when she was seized with a convulsion while sitting in a chair before the fire. This spasm was very marked, with frothing at the mouth and tonic spasm of the entire voluntary muscular system. I was called about six o'clock, P. M., found the patient still convulsed, pulse 120, feeble and compressible, respirations 28, temperature 100°, pupils markedly dilated. My first inquiry was regarding the uterine function, which I found regular, the girl having been unwell ten days before. I could obtain no history of epilepsy. I at once concluded to evacuate the stomach, but, upon making an effort to give the emetic, I found the muscles of the jaw so contracted that I had to desist. I began at once to administer chloroform by inhalation; after giving three ounces I succeeded in arresting the convulsive movement, the muscular system remaining relaxed a short time only; soon, tonic spasms of the voluntary muscles made their appearance, the patient resting quietly except during the spasms. When the muscular system was first relaxed by the chloroform, the girl vomited a quantity of undigested food. I then directed her bowels to be moved by enemata, which entirely failed after several trials. About an hour after arresting the convulsive symptoms, the tonic spasms continuing, the pulse became strong, full, and labored, pupils contracted, breathing stertorous, respiration 18. The patient seemed wholly insensible to everything around, sensation present to some extent, and reflex action. I ordered potass. brom. gr. xl. by enema, to prevent some little convulsive tendency which seemed to be commencing, there being also some groaning and restlessness. Bromide ordered to be repeated every hour until these symptoms disappeared.

February 9th, A. M.—Patient seems to be in about the same condition as when I saw her last night; pulse 84, strong and full, pupils still contracted, respirations and temperature normal. Bowels have as yet failed to move, although the patient was given an additional enema. Kidneys have acted well, no trace of albumen in the urine, which was high colored, of acid reaction. Tonic spasms of the muscles continue, not so marked Cold applications to the head were employed, with dry cups to the spine. I ordered an enema of castor-oil with three drops of croton-oil. Bromide continued, with five drops tr. verat. virid. every three hours. A blister six by eight applied over the bowels.

9*th*, P. M.—Condition about the same as at my morning visit except, that, perhaps, the muscular spasms are less marked.

10*th*, A. M.—Patient rested well last night after repeating the bromide several times. Tr. verat. virid. was also kept up. Bowels moved copiously from the effects of the enema; pulse 80, less corded, with some little irregularity; respirations and temperature normal; pupils very little contracted. The patient, when spoken to in a loud tone, opens her eyes, and seems to comprehend, although unable to speak. The girl being quite restless, I ordered bromide in twenty-grain doses every two hours. Tr. verat. virid. discontinued.

10*th*, P. M.—Condition about the same.

11*th*, A. M.—Patient spent a very restless night, being troubled with frightful dreams; pulse, respirations, and temperature normal. The patient seems entirely conscious and rational; complains of muscular soreness, with some headache; the tonic muscular spasms have entirely disappeared. I may here state, there was no evidence of paralysis at any time. Bromide with verat. continued; the verat. ordered for headache, which it seems to control.

12*th*, A. M.—Patient spent a delightful night, feels greatly better; pulse, respiration, and temperature normal; bowels and kidneys acting well; some headache still present.

13*th*, A. M.—Patient expresses herself as feeling much better; no headache; pulse, respirations, and temperature normal; secretory organs acting well.

From the history of this case we have three conditions which might produce the symptoms, leaving out Bright's disease and epilepsy: The symptoms may have been from congestion, or hæmorrhage into the brain, or serous effusion. Was it congestion? I think not. The brain symptoms were too marked, and continued too long; besides this, the pulse was not that of congestion, nor had we the peculiar lividity of the face that we expect in such cases. Was it hæmorrhage or apoplexy? I think not. These affections would have been more lasting, even if slight; besides, we would most probably have had some paralysis as a sequel. The case was one, I think, of serous effusion into the ventricles: 1. Because, as I think, hæmorrhage, apoplexy, and congestion, have been excluded. Serous effusion, as a rule, does not leave any sequel, or, if any, it is very transitory in its effects. From an overloaded stomach, a reflex convulsion, causing the muscular contraction, prevented a return of blood from the brain, and to relieve themselves the vessels poured out this serous effusion. Can we form an opinion as to where the effusion took place? I think in the ventricles, from the continued tonic muscular spasms. Prof. Da Costa, in his admirable work, "Medical Diagnosis," says, "ventricular hæmorrhage or effusion is, besides, distinguished by profound coma and by tonic contraction of the muscles." I will here call attention to the fact of the marked pallor of the face and the feebleness of the pulse in the beginning of the attack, which were much insisted on by the older medical writers, as an evidence of serous effusion. This, I know, might occur in a profuse hæmorrhage, but it seems to me that such a loss of blood would have left its effects. A small clot on the surface of the brain possibly might produce the symptoms; but then we have evidence of a ventricular hæmorrhage or effusion against this theory. I desire to call attention to the exciting cause in this clinical history—to the wonderful sympathy between the stomach and the brain. Here was a patient seized suddenly from abusing an organ which, of all others in the animal economy, is most abused, at a time, too, when its digestive function was impaired by disease, of which we shall hereafter speak. Now, we have in an overloaded stomach the exciting cause of this marked case of perverted nerve equilibrium. Can we trace this perversion of nerve-function any farther? I think we can. I have been since called to see the patient for the relief of a periodical headache with which the young girl has suffered for a time. Upon questioning her, I found that she had a headache coming on regularly at two o'clock every day, and continuing constantly until twelve o'clock the next day. She was placed upon the use of quinine, as though treating a well-marked case of intermittent fever, and it acted like a charm. Strange to say, a ten-grain dose of quinine acted as though the patient had taken a full dose of morphine. Nearly a month has elapsed since the above treatment of quinine was begun, the patient remaining free from headache. I must conclude, therefore, that the trouble was due wholly to malaria, although the patient has been a sufferer for several years, being exposed, however, during the time, to malarial influence. The case is remarkable from the fact that the temperature was rarely ever above the normal. Besides, there was no splenic enlargement nor other malaria manifestations, the girl being seemingly in perfect health. The patient during the three years has had regular attacks of malarial fever; during such an attack the periodical headache would disappear, giving place, as it were, to a general outburst of the hidden affection. This case reminds me of one related by Prof. S. H. Dickson, in his lectures, of a little boy who had a severe periodical pain in the left great-toe, occurring every other day, which could only be relieved by quinine. I desire to say that I found in this case, as in many others of a similar nature, the tincture of veratrum viride of signal benefit.

The point of especial interest is the fact of the tardy and insidious manner in which the malarial manifestations appeared. I have since learned that the patient has suffered for seven years with this periodical headache. The mother tells me that whenever quinine was administered there was an evident relief of the head symptoms, but that she merely considered it a coincidence. What is still more surprising, if we accept the malarial origin of this case, is the want of other symptoms which are so common, and so often noticed in malarial subjects. Nearly two months have now elapsed since this patient was so severely attacked, and as yet she has not had a single attack of the headache. I have been giving her quinine constantly. The sedative effect of the quinine is still very apparent, ten grains of the drug producing sleep; this effect was so marked that our patient asked if I was not giving an opiate, or something to make her sleep. It may be said that the quinine has acted merely as a tonic, and I admit that it might be possible; but the general appearance of the subject would lead to a different conclusion.

Notes of Hospital Practice.

BELLEVUE HOSPITAL.

Hydro-Pneumothorax of Twelve Years' Standing.—Dr. E. G. Janeway has under his observation a case of the above variety. The history is indicative of no special novelty beyond the duration of the disease. The patient at the present time is thirty-four years of age, and when she was twenty-four she was taken sick with what was seemingly pleurisy on the left side. After three or four weeks she improved, but found that a cough, accompanied with very copious sputa, remained. She was seen at that time by a physician who made a diagnosis of phthisis, with cavity. The patient said that seven years ago she noticed that when she moved the body rapidly, as in walking, she felt a sound as of water splashing in her chest. A physical examination reveals a cavity in the lower part of the chest, which is gradually becoming diminished in size by the encroachment of the lung. When she was first seen, the fluid came up as far as the angle of the scapula. The upper part of either lung shows no trace of phthisis. It is obvious, now, that diagnosis of a phthisical cavity was made by the rational history together with percussion. The sputa complained of by the patient were obtained from the cavity of the pleura, and were no doubt an important element in making the diagnosis of advanced phthisis.

Apoplexy in a Patient aged Twenty-six.—Cases of cerebral extravasation occurring under thirty years of age are so uncommon that their history becomes of interest. The patient was twenty-six years of age, and had always been noted for his intellectual powers. Some years previous to his death he had an attack of typhoid fever, which did not appear to have any special influence on his after condition. For one year previous to his death he complained of severe headache, and had been seen by different observers without any benefit either in regard to diagnosis or treatment. He was taken with hemiplegia and coma one evening, and within twelve hours died. The *post mortem* showed a large clot situated in the middle and anterior part of the cerebrum, with destruction of the outer part of the corpus striatum. The cause of the apoplexy was shown in the fatty degeneration of the internal coats of the arteries at the base of the brain.

Dislocation of Radius and Ulna with Fracture of External Condyle; Good Result.—A boy aged ten fell upon his side, and on examination it was seen that there was a dislocation backward of both radius and ulna, with fracture of the external condyle. The interest of the case rested mainly upon the unusually good result following passive motion. After a reduction of the dislocation, which was readily accomplished, the elbow was kept flexed, and at the end of five days passive motion was resorted to. After six weeks restoration was perfect, with the single exception of inability to perform extreme extension.

Strangulated Hernia; Efforts to reduce it with the Hand in the Rectum.—A case of strangulated inguinal hernia was admitted to hospital, on which the manipulation by means of the hand in the rectum proved to be a failure. The hernia was on the right side, and on the introduction of the hand the gut was secured without difficulty. As much tension was made as was considered allowable, but not even partial reduction of the hernia was obtained. The ordinary operation was afterward performed successfully, and the patient passed on to recovery. On the third day following the operation delirium tremens occurred, but without bad effect, notwithstanding that the patient was excessively violent.

Comminuted Fracture of the Ulna; Amputation; Treatment by the Open Method; Objection to it.—A workman in a planing-mill received an extensive injury to the ulna and muscles by having his arm dragged within the rollers. On admission to hospital the ulna was found shattered to within three inches of the olecranon. Amputation at the elbow was performed by the house surgeon, Dr. C. P. Smith, and stump allowed to remain open. The case did well; but, when it was considered proper to bring the flaps together, it was found that they were too long, and a portion of them had to be removed. It would seem that one marked objection to the open method of treating stumps consists in the uncertainty of estimating the proper amount of flap to make in order to guard against the contraction which will of necessity result. In the above case the mistake was on the safe side.

PRESBYTERIAN HOSPITAL.

Fracture of the Patella; Treatment.—A patient entered with a transverse fracture of the patella, the result of muscular action. On examination the fragments were found separated about half an inch, and were with ease approximated by the fingers. Dr. D. B. Delavan, the house surgeon, proposed to treat the case by first applying adhesive straps to the anterior surface of the leg and thigh; which would terminate in a strong iron ring at the knee. A plaster-bandage carried over the extended extremity would keep the limb motionless. When this stage of the treatment was arrived at, a fenestra would be cut out of the plaster over the patella large enough to allow the two opposing iron rings to be brought together by lacing, and in this manner keep the fragments in position.

Contraction of the Muscles of the Leg; a Sequel of Measles.—A patient, eleven years of age, is at present in one of the private wards, suffering from tonic contraction of the muscles of the leg. The history is as follows: When two years old he suffered from an ordinary attack of measles, and after convalescence it was found that there was a tonic contraction of the muscles of the leg, resulting in talipes equinus. The treatment consisted in cutting each tendo Achillis, flexing the foot, and applying a shoe with steel bar extending up the leg. One week after the operation the patient was found to walk without difficulty, and when the shoe was removed there seemed to be no further tendency to contraction.

Report of a Case of Exsection of Wrist.—The case of exsection of the wrist, of which an account was reported recently in the transactions of the Pathological Society (JOURNAL, June, 1876, page 630), has proved very successful. The patient is able to slightly flex the wrist and also to pronate and supinate the forearm to a certain extent. He is able also to write in a very legible manner.

SMALL-POX HOSPITAL.

The number of patients at the present time (June) in the Small-Pox Hospital is much less than at any time during the past year. This is to be attributed in great part to the continuous house-to-house vaccination which is practised by the vaccinating corps of the Board of Health. It would seem very ill-timed in the police authorities to endeavor to impede their action by forcing them from their present quarters and of necessity disorganizing their action. This is particularly true when it is considered that the vaccination is practised with best advantage during the months of May and June.

Paralysis following Variola.—A young man contracted an attack of variola, but not of a severe type. During convalescence paralysis of the arm was found to exist. It would seem that the pathology of the case points to neuritis affecting one or more of the branches of the brachial plexus of nerves. The case does not seem to improve under treatment.

NEW YORK FOUNDLING ASYLUM.

Salicylic Acid in Diphtheria.—Dr. J. Lewis Smith has within the past few months been testing the efficacy of salicylic acid to check the blood changes in diphtheria. The result of his observations is that it is obviously without avail, even in cases where there is tendency to renal complication and where it was supposed most good would result.

Empyema; Recovery.—A child, aged four years, was attacked with pleurisy with effusion, which passed on to empyema. After a time there was seen a small tumor, which spontaneously opened and discharged a large amount of purulent fluid. After the first free discharge there was shown a tendency to a markedly diminished amount of pus, and within a few days the patient was enabled to sit up in a chair. The toleration of disease in the child is remarkable, inasmuch as on two separate occasions she was supposed to be moribund from diarrhœa.

Sequel of Measles.—During an epidemic of measles in the month of March, one of the children, about four years of age, was attacked with what was considered to be a form of the disease not specially malignant. After the first week he sank into a condition of great debility. On closer inspection it would seem that the cause was centric, and for six weeks he presented all the symptoms which are usually found in softening of the brain, such as incoherency of speech, etc. Ultimately the patient died of exhaustion. At the autopsy no cerebral lesion could be detected by the eye, but it is fair to assume from the clinical history of the case that there was some unappreciable change.

NEW YORK EYE AND EAR INFIRMARY.

Foreign Body encapsulated in the Vitreous.—A man aged twenty entered the institution stating that he had been struck in the eye with a small piece of steel. On examining the eye it was found that there was in the vitreous a foreign body which moved with the motion of the eye. There was also anterior synechia with slight opacity of the lens. The indications of the case were for the present not to interfere, inasmuch as the foreign body was encapsulated and situated about the centre of the vitreous. If the foreign body rested on the choroid, retina, or ciliary body, it would be wise to remove the eye in order to anticipate sympathetic irritation.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

June 7, 1876.

Dr. J. S. Jewell, President.

Spinal Ganglia.—Dr. J. S. Jewell, of Chicago, instead of reading the usual inaugural address, confined his attention to the consideration of the ganglia on the sensory roots of the spinal nerves. He said they differed from other ganglia in the appearance of their cells, which were either apolar or unipolar. In some cases the filament connected with the cell was apparently first wound around it, and then passed to the surface of the ganglion and continued along to the peripheral extremity of the nerve, but never passed back to the spinal cord. When section of the posterior nerve was made on the peripheral side of the ganglion, it was found that atrophy of the nerve took place on that portion peripheral to the cut; but, when section was made on the central side, atrophy took place only on the central side of the incision. When section of the mixed nerve was made, atrophy of the muscles supplied by that nerve took place, in from six weeks to two months. If section of the posterior root was made on the peripheral side of the ganglion, the same result was obtained; but, in cases of section of the central part of the posterior root, no result followed.

Dr. Jewell referred to some recent microscopical sections of the ganglia made by Mr. Amidon, of this city, which proved of much interest to him in clearing up some obscure points.

Hysterical Trismus; Use of Atropine.—Dr. Shaw described a case of hysterical trismus that yielded very readily to the use of hypodermic injections of atropine. Before reciting his case he gave a *résumé* of cases reported by other observers. The patient was a German girl, who had a penetrating wound of the foot caused by a nail. Trismus supervened, and, although the integument was removed in the neighborhood of the cicatrix, no relief was obtained. The case presented also symptoms of blepharospasm. The patient was given hypodermic injections of atropine, and within twenty-four hours was relieved. Periodically other attacks would occur, but in every case there was a relief of the symptoms after the use of the drug. It was found necessary to administer the remedy in sufficiently full doses to produce delirium.

Some discussion took place on the subject of hypodermic injections. Dr. Seguin, in speaking of the matter, said that he had transferred the above case to Dr. Shaw as one nearly hopeless, and he was glad to find that such benefit had followed the use of atropine. Dr. Jewell said that, although the matter was hardly relevant, he felt tempted to say that the use of morphia with atropine was of the utmost importance in choleraic cases, which in all probability would soon be prevalent. None of the unpleasant after-effects were complained of that usually follow the use of morphia alone. The relative proportions of the two alkaloids, in his experience, were twenty-four grains of morphia to one grain of atropia.

Paralysis following Acute Diseases.—Dr. WEBBER, of Boston, read a valuable paper upon the paralysis which follows diphtheria, puerperal and typhoid fevers, and the acute eruptive diseases. The many cases which he had collected and observed were divided into those in which autopsies had been made and those which resulted in recovery. In regard to the pathology, it would seem that the most constant lesion was disease of the anterior columns of the spinal cord, with or without a neuritis affecting some special nerve. The first case reported was observed by Dr. Webber, and resulted in recovery. A patient previous to the birth of her child had been in comparatively good health, but after parturition suffered from an attack of puerperal fever. During the fourth week following the birth of her child, paralysis of the lower extremities supervened; this was accompanied by incontinence of urine. There was also paralysis to a less degree of the upper extremities. Eventually the case recovered. The second case, also observed by Dr. Webber, was one of paraplegia following typhoid fever. The paralysis appeared suddenly during convalescence, and it was eight months before the patient was able to walk. Three or four years afterward a marked improvement took place, but fifteen months ago weakness of the extremities again occurred, accompanied with twitching of the muscles. From the general character of the symptoms it would seem as if there was a lesion in the cord. Dr. Webber read a number of collected cases in which autopsies were made, giving the clinical history and pathological anatomy. One case of hemiplegia after variola showed a spot of softening in the left anterior cornu of the spinal cord. A case of dysentery followed by hemiplegia presented the evidences of myelitis affecting the anterior cornu of the left side. A case of muscular atrophy, developing after puerperal fever, showed at the autopsy sclerosis of the anterior part of the cord. Two cases of paralysis, a sequence of variola, showed changes in the cord. One case of paralysis following diphtheria presented nuclei in the gray matter, with hæmorrhage into the spinal membranes. In one case after vaccination a neuritis of the radial nerve supervened, and the patient was unable to extend the fingers of that arm.

In conclusion, Dr. Webber said that the paralyses of the post-febrile class were ephemeral in the majority of cases, but not in all. When the case was obstinate it was fair to assume that the cord in all probability was affected, but in many cases, where the trouble was slight, it was difficult to tell where or what the lesion was.

Discussion.—In the discussion which ensued, Dr. SEGUIN related two cases, one of which must be considered of marked interest in a therapeutical light. The first case was seen by Dr. Seguin in his service at the Hospital for Epileptics and Paralytics on Blackwell's Island. The patient had an attack of typhoid fever, and during the convalescence developed a weakness of the limbs. When he was seen by Dr. Seguin he exhibited the characteristic symptoms of progressive muscular atrophy. He could not be treated properly, from lack of galvanic apparatus, and shortly afterward left the hospital unimproved.

The second case was in marked contrast to the foregoing. The patient was a lady, and was one of four cases who contracted cerebro-spinal meningitis at Providence, Rhode Island. Dr. W. H. DRAPER saw the case in consultation, and reported that there were marked spinal symptoms. After convalesence she grew powerless, and gradually the paralysis advanced till the muscles of the hand were so markedly atrophied as to become with difficulty discernible. The muscles of the forearm were less affected, and still less so were the muscles of the arm. The muscles of the foot, leg, and thigh were in a similar relative condition. The treatment consisted in the use of electricity every other day. At first the galvanic current only yielded reaction, but by degrees the faradic current also showed a similar effect. During the first season the patient was able to use her hand. During the second season she was able to sit and stand. It was found that the foot was in a condition of talipes equinus, and any attempt to react on the anterior tibial muscles was without avail, and it was considered judicious to try the effect of relaxing them by cutting the tendo Achillis. After this operation the leg was placed in a plaster-of-Paris splint, and fenestræ were left to apply the poles of the battery. This procedure was attended with the happiest results, the patient obtaining voluntary control of the muscles of the leg, though no distinct movement of the toes could be appreciated. Dr. Seguin said the first diagnosis that he made was compression of the spinal nerves by exudation at their emergence from the spinal canal through the intervertebral foramina, but, on having the case for a longer time under his charge, he was convinced that the lesion existed in the anterior columns of the spinal cord, inasmuch as there was no paralysis of sensation.

Dr. JOHN J. MASON presented a case of blepharo-facial spasm to the Association. The patient said that the attacks came on during the spring of each year for the past few years. The interval between the paroxysm was not more than five or ten minutes, and the paroxysm itself lasted about three minutes. Bromide of potassium proved of great benefit in controlling the paroxysms.

Undescribed Nervous Disease.—Dr. HAMMOND presented a patient with a nervous condition which has hitherto not been described, as far as he could discover.

The patient was three and a half years of age, and in good general health. Several months ago the parents of the child noticed that he walked in a very strange manner. When he was seen by Dr. Hammond the body was inclined to the left. The right hand was thrown behind and the left hand flexed under the chest. The legs were abducted, and when walking the patient plunged forward in a disorderly manner. There was no paralysis, no anæsthesia, no pain, no spasmodic condition of any of the muscles, and no diminished contractility. The patient had been circumcised by Dr. L. A. Sayre, but the operation was not followed by any benefit whatever.

Dr. Hammond considered the case as one of muscular incoördination, and was of opinion at first that it was a case of hemichorea; latterly he had discarded that view and professed himself as unable to give any explanation of the case. In answer to a question he said that there were no defects of hearing in the case.

Cross-Paralysis.—Dr. Hammond presented also a case of cross-paralysis in a child ten years of age. The paralysis affected the right side of the head and the left side of the body. The interest of the case rested on the rarity of the disease and the age of the patient. The lesion in all probability was an extravasation into the pons Varolii. At the time of exhibiting the child, marked improvement had taken place.

Influence of the Mind in producing Disease.—Dr. Beard read a paper on the above subject, giving an account of experiments which he had conducted on different patients.

New Cautery Apparatus.—Dr. J. J. Putnam, of Boston, presented quite a novelty in the way of a caustic apparatus, which consisted of a compound blow-pipe, in which the tongue of flame impinged on a button of platinum. The instrument had attached to it a rubber bulb and rubber reservoir for keeping up a continuous current of atmospheric air. The current of air met at the handle of the instrument a current of gas supplied from an adjacent burner by means of a long rubber tube. The instrument was quite convenient in use, and was not unlike the handle of a galvano-caustic apparatus.

Dr. Seguin said that he had found it very convenient in cases where it was necessary to apply the actual cautery. It could be carried around the hospital wards and attached by means of its long tube to any gas-burner.

Galvanometer.—Dr. Putnam also presented a galvanometer which he had found more satisfactory than those in ordinary use.

Clinical Study of Tetany.—Dr. N. B. Emerson read a paper on the above subject, and gave in detail the history of two cases which had come under his observation. The first case was a girl who had been under treatment at Demilt Dispensary. She was supposed to be the subject of acute rheumatism, induced by checking menstruation through the means of cold ablutions to the genitalia. When she was seen by Dr. Emerson there was rigidity on the right side, with an effusion into some of the joints. The deformity was characteristic, being tonic contraction of the muscles, causing extension of the extremities. The rigidity after a time left the right side and appeared on the left, and in every respect resembled what had been seen on the right side.

The second case was a male, aged eighteen. The history of the patient showed a tendency to nervous symptoms. He was first seen at Dr. Seguin's clinic for nervous diseases, at the College of Physicians and Surgeons. The friends of the patient said that his spasmodic attacks were attended with remissions, and during one of those remissions he was taken to the college. He was taken with a spasm on going home, and was ordered conium. The effect of the conium was in a short time to completely relax the muscles. Every two weeks a slight attack would be ushered in by premonitory symptoms, but on the use of the conium they would be relieved.

Dr. Emerson said that the diagnosis of *tetany* was liable to be confounded with tetanus and hysterical contractions. It differed from tetanus inasmuch as the rigor of tetany began in the extremities, and there was no increase of temperature during the attack. From hysterical contractions the diagnosis was more obscure. It was very important that additional light be thrown on the subject through an increase of the reported cases. It would seem to be induced by anything causing depression of the system.

Dr. Webber saw a case in consultation about five or six years ago. The man was a coal-miner in England, and was in the habit of having attacks before he came to this country. When he was seen by Dr. Webber the attacks were more violent than those usually reported. The cramps of the abdomen and limbs were very violent. Conium in full doses every hour relieved him only partially, and the best results were obtained from chloral.

Dr. Miles said that he had seen a case which resembled tetany somewhat, and was cured by antisyphilitic treatment. There was marked rigidity of the leg. In answer to a question from the President, Dr. Emerson said that tetany in all probability was functional, inasmuch as it was intermittent in its character. No autopsy had been recorded as yet.

Dr. MARY PUTNAM JACOBI said the disease occurred both in puerperal women and young children, and recorded her experience on the subject in the Parisian hospitals.

Dr. SEGUIN said the disease was very liable to be confounded with hysterical tetanus. When he saw the second case recorded by Dr. Emerson at the clinic he was unable to say whether it was hysteroid or tetany.

He had seen in consultation the young daughter of a physician, who presented marked symptoms of tetany affecting the muscles of the left hand. The mother of the patient was markedly hysterical. Different remedies were tried without effect, and eventually the patient was shut up and not allowed the sympathy of friends. In twenty-four hours the spasm was relaxed, and after forty-eight hours she was completely relieved.

A member of the Association recited the history of a case of spastic contraction of the muscles of one of the upper extremities, in which the deformity consisted of partial flexion of the elbow. The unfortunate sequel followed an attack of dysentery, and had lasted for many years. No benefit had been derived from any method of treatment.

Dr. Seguin asked for information in regard to the tetanus of Long Island. Dr. SWEZEY said that he believed it was most prevalent at the eastern extremity of the Island, and was prevalent over an area of about thirty miles.

Treatment of Headache by Inhalation of Carbonic Acid.—Dr. PUTNAM had in nine cases used carbonic acid to relieve headache. The results obtained were not very satisfactory, though in one case the headache was relieved by the use of the agent on three separate occasions.

Dr. EUGENE DUPUY detailed experiments he had made in company with Dr. Brown-Séquard on the effects of the inhalation of different gases in cases of tetanus produced by strychnia.

Dr. SEGUIN referred to the case of a quack in France, who used to apparently have good results in the treatment of epilepsy by the application of caustic ammonia to the throat.

Chronic Epilepsy.—Dr. ALLAN MCLANE HAMILITON read a paper on chronic epilepsy, which was based principally on cases which had been observed at the Hospital for Paralytics and Epileptics, Blackwell's Island. He had used bromide of potassium with and without ergot, and was of the opinion that the best results were obtained from the combined use of these agents. He had found that picrotoxin was, in his hands, a useless remedy. The nitrite of amyl was of service only at the onset of an attack, and was without benefit when continued at stated intervals between the paroxysms.

Dr. Hammond said that small doses of bromide of potassium were of very little use in the treatment of epilepsy. A patient from Cincinnati had been sent to him for treatment, and he had found that the fifteen grains three times a day, which he was in the habit of taking, produced no result. Dr. H. increased it to twenty grains three times a day, then thirty grains, then thirty-five grains, and eventually forty grains four times a day. After continuing forty grains four times a day for a month, there was a cessation of the epileptic attacks, and since that time they have not returned. It was difficult to say what amount might be required in any individual patient, and it could only be ascertained by producing bromism, or the physiological effects of the remedy. He was convinced that, in the majority of cases, sixty grains in twenty-fours, as had been suggested by some, was not enough. He agreed with Dr. Hamilton, that nitrite of amyl was of no service except when taken at the onset of a paroxysm. It was a question, however, whether or not the continuous use of the agent to abort paroxysms might not eventually stop them.

Dr. Miles was of the opinion of Dr. Hammond in regard to the use of bromide of potassium in epilepsy. He believed that the drug should be pushed till the physiological effects were produced.

Dr. Hammond said that a good test of bromism was the lack of irritation in the pharynx produced by the introduction of a spoon.

Dr. Seguin agreed with Dr. Hammond, in regard to the administration of the bromide. He was in the habit of adopting a suggestion of Dr. Brown-Séquard, which was to give a maximum dose at bedtime, and minimum doses during the day. He used the fluid extract of ergot in combination with the bromide, in doses of ʒss–j. He considered strychnia a valuable agent in controlling the staggering gait present in bromism, and arsenic of value in combating the acne which resulted from the administration of the bromide.

Dr. Jewell said that in his experience epileptic attacks were very liable to supervene when the patient was fatigued. The suggestion of Dr. Hammond to test the irritability of the throat was of practical importance, inasmuch as physiological experiments tend to show that the cervico-maxillary region was the centre of reflex action. This was proved by experiments made by Brown-Séquard, in poisoning by strychnia, in which he carried one current of gas through a tube in the trachea, down into the lung, and another current up through the mouth. The current carried backward through the mouth was the only one that checked the tetanic spasms.

Regional Cerebral Diagnosis.—Dr. Miles presented two plaster casts to illustrate a case of apoplexy in which a diagnosis had been made of extravasation into the crus cerebri. The diagnosis rested on the fact of the existence of ptosis on one side. Dr. Miles said that at the autopsy the extravasation was found not to have taken place into the crus, but the pressure of the clot was exerted on the third nerve in its course across the crus. An important prognostic point was, that, if the extravasation had taken place into the crus, the opinion of impossible recovery was justifiable. This opinion was given, and, although it was verified, the grounds upon which it was given were false.

Galvanization of the Brain.—Dr. Eugene Dupuy recited some experiments which he had made on the cerebrum in regard to the localization of functions. The discussion was continued by Dr. J. W. S. Arnold and the President.

Retinal Circulation in Epilepsy.—Dr. T. M. B. Cross read a paper on the above subject and gave the result of his investigations. Dr. John J. Mason referred to a paper by Dr. E. G. Loring on the subject. The conclusions arrived at by Dr. Loring were that the retinal circulation was entirely independent of the brain, and influenced by intraocular pressure. Dr. Hammond said that ophthalmic surgeons held that the retinal circulation was entirely independent of the encephalon, whilst neurologists held the opposite doctrine.

Some discussion took place in regard to the action of bromide of potassium in epilepsy, whether it exerted its influence by causing anæmia of the brain or by having a direct effect on the cerebral tissue.

Dr. Hammond said there could be but little doubt in regard to the agent producing a diminished amount of blood in the brain, for, if it was given to an infant, shortly afterward there would be found an increased depression of the fontanelles, and if it were administered to an animal, and the instrument for recording intracranial pressure applied, the index would show that the use of the bromide would be followed by a lessening of the pressure.

Fracture of the Spine.—Dr. Putnam showed a specimen of fractured spine, and also a portion of the cord which he had removed from it. The history was that the patient, a boy, fell from height of seventeen feet and struck on his back. The injury was followed by paraplegia and atrophy of the muscles of the lower extremities, and eventually death. The bladder did not participate wholly in this paralytic condition, inasmuch as it was found that, when an injection was made into it for the purpose of washing it out, there was a tendency shown to contract. By placing the thumb over the opening of the catheter and preventing this tendency there seemed to be no further disposition to it. On examining the specimen there was seen to be a fracture, with displacement backward of a portion of the twelfth dorsal vertebra upon the cord. The cord on examination was seen to be constricted at this part, and the most of the spinal nerves below this were found to be atrophied.

Dr. Jewell said that the automatic action of the bladder was accounted for in all probability by its nervous centre being located in the part of the cord below the seat of injury.

General Paralysis of the Insane.—Dr. A. M. Hamilton read a paper on the general paralysis of the insane. Several other papers were not in a finished condition, and will appear in the transactions of the Association.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 21, 1876.

DR. H. B. SANDS, President.

A Lost Art in Surgery.—Dr. H. B. CROSBY read a paper before the Society, taking for his subject "A Lost Art in Surgery." The lost art referred to by the reader of the paper was surgical cleanliness. In the course of his remarks he mentioned the method of purifying those wards of Bellevue Hospital which were infected by the last epidemic of puerperal fever, and which was so thoroughly performed that, on their subsequent occupation by surgical cases, much less than the usual tendency to pyæmia and septicæmia was observable. The system of disinfection consisted in closing the ward, and charging it with steam. Afterward large leaden troughs were placed on the floor, and a sufficient amount of chloride of sodium, black oxide of manganese, and oil of vitriol, added to disengage enough chlorine gas to thoroughly charge the ward.

Leucocythæmia.—After the reading of the paper, Dr. E. G. JANEWAY presented an immense spleen, referred to at the last stated meeting, when Dr. Janeway read his paper on leucocythæmia. The history, in brief, was as follows: A man, aged thirty-two, contracted swamp fever twelve years before he came under observation. This lasted for six weeks, and until three years ago he had been in good health. At that time he suffered from a pain in the left hypochondriac region, accompanied with shortness of breath. Shortly afterward he was attacked with eczema of the legs. About the same time he noticed a lump under the free border of the ribs, on the left side, which gradually increased in size. With the advance of the disease there was a marked amount of debility, though the appetite was unimpaired. He was again examined, two years ago. The abdomen was then much enlarged, and protruded most on the left side. Percussion revealed dullness, extending on the left side from the seventh rib to the pelvis, in a vertical direction, and transversely, from a point four inches to the right of the umbilicus, to a vertical line drawn through the anterior superior spine of the ilium. An examination of the blood showed it to contain corpuscles in the proportion of four of the red to one of the white. The case progressed slowly, the patient ultimately dying of chronic pneumonia. An autopsy was secured by the attending physician, Dr. L. J. Gordon. The spleen weighed seven and a half pounds. It measured fourteen inches in length, by nine in width, and four in thickness. It extended downward as far as the upper part of the bladder, and then became doubled on itself and rested on the left kidney, causing a depression on its surface. A section of the spleen showed no thickening of the capsule. The tissue of the organ was firm and dense, but presented a large number of small yellow infarctions. The Malpighian bodies were not visible to the naked eye. The liver weighed seven pounds. The left lobe was thinned out by pressure exerted between the spleen and the diaphragm. In it there were leucæmic formations. The left kidney was atrophied by the pressure of the enlarged spleen. The right was correspondingly hypertrophied. The lungs showed evidences of pneumonia and pleurisy, which were the immediate cause of death. The specific gravity of the blood was 1036.

MEDICAL JOURNAL ASSOCIATION.

Stated Meeting, May 26, 1876.

Dr. E. G. Loring, President.

On some Points in the Etiology of Hereditary Syphilis.—Dr. F. R. Sturgis read an important paper on the subject of the transmission of syphilis. He argued that syphilis was not transmissible by the semen of the male parent, but that when the disease was communicated to the child it was through the mother. He then gave a brief *résumé* of the manner in which the virus of the poison was supposed to be absorbed into the blood, and argued if that view were correct, the child was diseased by the poison passing from the mother's blood.

He reviewed some of the so-called cases of *infectio per seminem*, especially of Kassowitz, and showed in what they were defective. He then took up the other side of the question, in which syphilitic fathers had healthy children as long as the mother escaped infection. He concluded by giving three personal cases in which, from evidence presented, he was forced to conclude that children escaped infection as long as the mothers were not diseased.

Dr. Otis said that it was exceedingly difficult to come to a conclusion in investigating the etiology of syphilis, for the reason that there were so many knotty points that everywhere presented themselves. A conclusion that he had come to, however, was, that there was an active stage of the disease in which only it was possible to inoculate the uncontaminated. He had never seen a case in which the disease had been communicated three or four years after the appearance of the initial lesion. In regard to ulcerations of the mouth, much obscurity frequently veiled the diagnosis. Patients had often come to him for treatment with buccal ulcerations which readily yielded to local applications, and he was of the opinion that this class was caused by the use of tobacco, though they closely simulated the mucous patches of syphilis. Dr. Otis related an interesting case which showed how difficult it was to come to a correct conclusion in this matter. A man who had syphilis was married, and was tortured with the idea that he possibly might contaminate his wife. A healthy child was born, however, in due time, and the feelings of the father were quieted for the time. Several years afterward he asked Dr. Otis to see his wife, and on examination there were found to be mucous patches and other evidences of syphilis, which yielded to antisyphilitic treatment. It seemed at this stage of the investigation that the disease had appeared several years after the active stage had passed, but on cross-questioning the lady she confessed to having had intercourse with an old lover at a time sufficiently anterior to have produced this manifestation of syphilis. Dr. Otis said his patients maintained an exceedingly respectable position in society, and had he not elicited the foregoing facts he would have been compelled to adopt the view that the husband was the contaminating agent.

Dr. Buckley, by the permission of the Society, presented a girl with syphilitic dactylitis, whom he had under observation for three years and whom he had previously reported.

Dr. Quackenbos was of the opinion that hereditary syphilis was caused only by a syphilitic mother, and could not be produced by the semen of a syphilitic father. In his experience an infected child would not live for more than two years.

Bibliographical and Literary Notes.

Art. I.—*Cyclopædia of the Practice of Medicine.* Edited by Dr. H. von Ziemssen. Vol. IV. *Diseases of the Respiratory Organs.* By Dr. Fraenkel, of Berlin, Prof. von Ziemssen, of Munich, Prof. Steiner, of Prague, Dr. Riegel, of Cologne, and Dr. Fraentzel, of Berlin. Translated by J. Burney Yeo, M. D., J. Solis Cohen, M. D., A. Brayton Ball, M. D., G. M. Lefferts, M. D., and E. W. Schauffler, M. D. Albert H. Buck, M. D., Editor of American Edition. 8vo., pp. xx.–805. New York: William Wood & Co., 1876.

Although this volume is somewhat larger than any of the five previously issued, yet vols. IV. and V. do not contain quite all the sections on those diseases pertaining to the respiratory organs. Vol. IV. treats of diseases of the nose, pharynx, larynx, trachea, bronchi, and pleura.

Fraenkel opens with an elaborate article on "The General Diagnosis and Therapeutics of Diseases of the Nose, Naso-Pharyngeal Space, Pharynx, and Larynx." The description of the methods of examination and of instruments, with woodcuts, is very full and complete, and cannot fail to prove of much interest to all practitioners. Transillumination, first suggested by Czermak, is alluded to, but Fraenkel is of the opinion that its useful employment will be confined to ascertaining the relative thickness of the laryngeal and nasal walls, as may be determined by the translucency of the part.

The pages devoted to "General Therapeutics" of these parts are very interesting and practical—no one can afford to skip this section. In view of what has been said in regard to the causative relation between the nasal douche and diseases of the ear[1] we are somewhat interested in the author's statement on page 85: "If, during the application of the douche, the nostril which should be left free is closed, and the patient make efforts at swallowing, there is no doubt but that fluid will enter the tubes. But this occurrence is by no means so dangerous as has been represented, and is very easily avoided in patients who are not too stupid, by having them leave the nostril free, abstain from efforts at swallowing, and breathe calmly with widely-opened mouth."

The several articles on "Diseases of the Nose" are very good—nasal catarrh, nosebleed, etc., receiving full and minute attention. In describing "Stenosis and Atresia of the Nose," Fraenkel calls attention to the possibility of the child swallowing the tongue, thus accounting for certain cases of suffocative attacks in children.

Von Ziemssen contributes the section on "Diseases of the Larynx," or, more particularly, on the catarrhal diseases of the same. It may be of interest to quote in this connection the author's view of the relation simple laryngeal and bronchial catarrh bears to pulmonary phthisis: "Many writers, and recently again Tobold, have supposed that simple chronic laryngeal catarrh may, if neglected, lead to phthisis of the larynx and lungs; but this conclusion rests upon false premises. Chronic laryngitis produces as little disposition to phthisis of the larynx as simple chronic bronchitis does to phthisis of the bronchi and lungs" (page 222).

"Croup" is described by Steiner. This article is considerably fuller than the corresponding article in the author's "Compendium of Children's Diseases;" but the same condensed style is noticed in all his writings. The clinical difference between croup and diphtheria is mentioned, although the author says the affections present many features in common, both as regards morbid anatomy and history, and he does not regard them as "entirely distinct diseases." He thinks that special influences and collateral causes make at one time croup, and at another diphtheria, two affections which are only varieties and modifications of the same process. Trousseau[1] does not make even the clinical distinction that Steiner admits. In relation to pathological anatomy, it is stated (p. 234) that "in croup the exudation takes place *upon* the free surface of the membrane, while in diphtheria it occurs at the same time *within* the tissue, and thus produces necrosis and loss of substance of the *mucous membrane.*" It is also stated (p. 257), in agreement with E. Wagner, that "there is *no sharp dividing line between diphtheria and croup.*" Oertel, in vol. I. of this cyclopædia, ascribes the nature of diphtheria to vegetable fungi or micrococci, and others claim that their presence is pathognomonic of diphtheria. We will give the author's view by introducing a single quotation from page 258:

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[1] *Vide* Roosa, "Cases of Diseases of the Ear," *American Journal of Medical Sciences*, April, 1871, p. 390.

"In opposition to this view it is only necessary to say that, if vegetable parasites are found upon such exudations, they are probably merely accidental, and not an essential part of the disease. Karsten[2] has recently very properly again pointed out that the bacteria, vibriones, micrococcus, etc., which are found in the interior of organs during disease, or after death, and which are supposed to be the carriers of contagion, are merely *pathological cellular structures* like pus and yeast cells, because one can, in fact, satisfy himself, by a careful examination, that they originate *within* the cells of animals and vegetables, and do not grow *into* them after the manner of parasites."

Upon this question we shall reserve our opinion; but in view of all that we know of the essential nature of the two affections under consideration, judging from a clinical standpoint, we cannot subscribe to the view that there is any relation between them, other than the tendency in common to the production of a fibrinous cast.

The author, in describing the exudation of croup, says (p. 255) that it "is sometimes merely a moderately thick *pellicle*, but more frequently a *thin*, *gauzy*, or a *firm tenacious false membrane, several lines in thickness.*"[3] As a line is one-twelfth of an inch, we are of the opinion that it will not require a membrane *very many* lines deep within a child's larynx, upon all sides, to entirely obliterate its calibre. Steiner claims that bronchial croup is not determinable with positiveness until after tracheotomy is performed. Riegel, in the article "Croupous Bronchitis," also says, while certain symptoms point with a strong degree of probability to the existence of the affection, the diagnosis cannot be made absolutely certain until bronchial casts are expectorated.

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[1] "Clinical Medicine."

[2] *Wiener med. Wochenschrift*, No. 39, 1873.

[3] Italics the author's.

The author treats croup with local applications of cold, emetics of tartar-emetic and ipecac. in combination, or, if this causes diarrhœa, sulphate of copper is substituted, and a spray of lime-water is recommended; but if he expects to save many of his patients he relies upon the early performance of tracheotomy. It is to be regretted that alum, which depresses but slightly, is not mentioned as an emetic, and that no mention is made of steaming. The latter remedy is certainly entitled to a fair trial, although, doubtless, many of the supposed cases of recovery from croup, from its employment, are merely cases of acute laryngitis.

It is evident that this article is written by one who has had rare opportunities for the clinical observation of croup, and there are many points in the description worthy of notice, especially those explaining the mechanism of the varied phenomena. The therapeusis of the affection is summarized too much, and the description of the operation of tracheotomy is altogether too superficial. In this connection it may be stated that the author expresses his opposition to the employment of chloroform in the operation. Nevertheless, very many good authorities recommend its employment in most cases.[1]

Riegel contributes the section upon diseases of the trachea and bronchi, the most elaborate of the articles being "Bronchial Catarrh" and "Bronchial Asthma." These articles are quite exhaustive, and seem to be quite recently written or revised.

Fraentzel contributes the section upon "Diseases of the Pleura," "Pleuritis" being the most elaborate article, occupying one hundred and forty pages. We will allude to a single point only. The author thinks we need scarcely ever fail to detect the friction sound of recent pleurisy, if the examination is made sufficiently early and with care. In this he is in opposition to Wintrich, Trousseau,[1] and Flint,[2] all of whom claim that it can be heard in a small proportion of cases only.

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[1] For a fuller discussion of this question, *vide* "Tracheotomy in its Relation to Croup." By J. Solis Cohen, 1874.

The volume, taken as a whole, is a good one, and is much needed to fill the gap which was left by the issue of volume V. The principal thing to be regretted is that, certain sections are crowded out of their proper place, as regards arrangement on an anatomical basis, in consequence of the size the volume has reached.

ART. II.—*Statistics, Medical and Anthropological, of the Provost-Marshal General's Bureau, derived from Records of the Examination for Military Service in the Armies of the United States, during the late War of the Rebellion, of over One Million Recruits, Drafted Men, Substitutes, and Enrolled Men, compiled under the Direction of the Secretary of War.* By J. H. BAXTER, A. M., M. D., Colonel and Chief Medical Purveyor U. S. A., late Chief Medical Officer of the Provost-Marshal General's Bureau. 2 vols., 4to. Washington, D. C.: Government Printing-Press, 1875.

PROBABLY one of the most complete, extensive, and valuable contributions yet made to the science of vital statistics is comprised in the two volumes of Medical and Anthropological Statistics of the Provost-Marshal General's Bureau, compiled by Colonel J. H. Baxter, United States Army, and just issued from the Government Printing-Press.

A critical examination or review of a work which has called forth the labor of eleven years is, at the present time, simply impossible; but even a cursory glance at its voluminous contents will show what results may be obtained by patient, intelligent industry, in the ordinary arrangement of so vast an accumulation of data, while the practical value of these results will be fully appreciated by the future laborer in this especial field.

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[1] *Op. cit.*

[2] "Physical Explorations," etc., 2d ed., pp. 512, 513.

Volume I. opens with a general introductory, giving briefly the plan and scope of the work, alluding to the causes which rendered necessary the "act for enrolling and calling out the national forces," approved March 3, 1863, and the consequent establishment of the Provost-Marshal General's Bureau, with some interesting information relative to the inception and growth of the latter, passing then to "a comparative view of the instructions issued by the United States Government and by the principal governments of Europe for the guidance of the medical officer in the examination of recruits," with full lists and tables of the disqualifications for military service adopted by the United States and foreign powers, and interesting running comments on the recruit and recruiting. The introductory remarks close with an exceedingly well-prepared and instructive outline of the history of anthropometry, or "the attempt to ascertain the proportions of the human body," with brief references to the theories and treatises of the prominent workers in this line, appended to which will be found a copious bibliography relating to the history of anthropometry.

The main body of the first volume is divided into three parts. Part I. opens with definition of terms and the nomenclature of disease used in the work, thence passing to an examination and discussion of the various subjects forming the basis of the extensive tables which make up the entire contents of the second volume. Time and space will permit but a simple notice of the headings of the subjects thus discussed.

Under the heading Nativity, we find that the armies of the United States had representation from all parts of the world, even from the "uttermost parts of the earth."

Under Stature, the questions of height and growth, considered with reference to the American-born in the several portions of our country, and with reference to foreign countries, are well and ably discussed.

The important subject of Circumference of the Chest, or chest-girth, with relation to height, weight, mobility, age, nativity, and complexion, is dwelt upon at length, and the results obtained by a thorough study of the accumulated material are clearly and tersely tabulated—the final table under this heading, showing "a record of observations of mean physical qualifications of certain races of men, compiled from various sources," seems to be of particular interest and value. Under Complexion will be found some observations valuable in an anthropological point of view. The general results attained by a study of the tables on Military Aptitude must be regarded as flattering to the vanity of the American people. An intelligent comprehension of this valuable portion of the work can only be acquired by a careful examination.

Part II. comprises classes of beautifully executed charts and maps prepared "for the purpose of picturing to the eye the most interesting results of the tables by assembling isolated statements, and representing numbers by lines or bars which bear the same relation, in linear measurement, to each other as do the numbers for which they stand."

Of the charts, Class I. shows the relation of various diseases to social condition, complexion, age, height, and nativity.

Class II. the relation of disease to occupation.

Class III. the relation of disease to locality.

Class IV. the relation of both height and girth of chest to age and nativity. To further illustrate each chart a column has been arranged to show the whole number of men examined, and a second to show the millesimal *ratio* of the rejected. Following the charts are eleven maps; the first is devoted entirely to the definition of the enrollment districts as they existed in 1863–'64. The remaining ten show, by arrangement of color and varying intensity of tint, the prevalence of certain diseases throughout that part of the United States wherein the draft was enforced. These charts and maps afford an easy and satisfactory means of obtaining, as it were, a bird's-eye view of the whole field, and, taken in connection with the text, greatly enhance the value of the book.

Part III. contains the reports of Surgeons of Boards of Enrollment, and other documents. These reports are responses to a circular sent, at the close of the war, to each surgeon in the employ of the Provost-Marshal General's Bureau, in order "to obtain from experienced officers their deliberate judgment upon the fitness and sufficiency of the enrollment act;" they are voluminous, but will be found to contain much that is instructive and valuable to the surgeon and physician, the statistician, the anthropologist, or the general reader.

Part III. concludes with a list of the enrollment surgeons; a table showing the boundaries of congressional districts; a table for converting inches and pounds into their metrical equivalents and the reverse; and finally, a brief notice of the History of the Civil War in America, by the Comte de Paris, touching particularly the nationality and physical characteristics of the men composing the armies of the United States.

Volume I. concludes with a full and complete general index, by means of which the study and examination of this work will be made easy and agreeable.

Volume II., after a few prefatory and explanatory remarks, is entirely occupied by the tables already referred to.

The entire work is most satisfactory, showing the evidences of earnest thought, of diligent research, of careful analysis and great ability in coping with the formidable mass of material, and reflecting the highest credit upon the compiler and his co-workers, and must necessarily stand foremost in the ranks of kindred literature.

This Report is a "Public Document," and is now ready for distribution by members of Congress and Senators, to whom timely application should be made.

ART. III.—*A Manual of General Pathology, for the Use of Students and Practitioners of Medicine.* By ERNST WAGNER, M. D., Professor of General Pathology and Pathological Anatomy in the University of Leipzig, etc. Translated from the Sixth German Edition by John Van Duyn, A. M., M. D., and E. C. Seguin, M. D. New York: William Wood & Co., 1876. Pp. 728.

THE rapidity with which successive editions of this work have been called for is an indication of the favor which has attended it since its first appearance in 1862. The great intellectual activity of the last two decades, and the fruits of its exercise in the field of pathology to which it has been especially directed, are manifested by the great increase in size which each edition has added to the book. The amount of material is really formidable; over seven hundred solid, closely-printed pages, unrelieved by a single figure or diagram. In the preface to this edition the author says his task has been rendered much more difficult by the vast amount of material, more or less worthless or incomplete, which fills the literature of the day, the sifting of which we can easily believe to have been a most toilsome undertaking, and one which no single person would be qualified to do thoroughly in all cases. As a natural consequence we find that on several questions the author has contented himself with a brief mention of opposing facts and theories, and has wisely refrained from expressing a judicial opinion which no one in the present state of the science would be willing to accept as final, while on the other hand others are treated with a precision and authority that leave nothing to be desired.

The book is a vast collaboration and magazine of facts and theories which we cannot even attempt to criticise in detail, and in which can be found accounts of all that is known and of much that is merely surmised in this branch of science. Different fonts of type have been used to distinguish the relative importance of the different parts, and the reader's labor has been much lightened thereby.

The natural sequence of first generalities and their details has been followed in the arrangement. The first thirty-six pages are given to general nosology, the following one hundred and ten to general ætiology, embracing age, sex, constitution, atmospherical influences, soil, mode of life, profession, etc., together with a dicussion of the influence of spores, and an account of vegetable and animal parasites. Part third occupies three hundred and seventy pages, and treats of general pathological anatomy and physiology, subdivided into—1. Local disturbances of the circulation; 2. Inflammation; and 3. General disturbances of nutrition, under which head one hundred and fifty pages are given to a very good description of tumors. The fourth and final division is devoted to the pathology of the blood, including uræmia, pyæmia, diabetes, and fever.

We cannot dismiss the subject without a word upon the way in which the translation has been made. The translators have erred upon the conscientious side, and their translation has been so literal that it is no longer English. This, of course, is not marked in the construction of the sentences, but the individual words also are not above reproach. We think it is not too much to say that this is inexcusable. The apology in the preface shows that the fault has been committed knowingly, and the explanation must lie either in an error of judgment or in negligence. As for the former, no one can seriously maintain that a translation is the better for reminding the reader at every page that it is a translation; and, as for the second, the resources of our language are certainly equal to the clear and idiomatic expression of any idea that can be found in this book. Whatever the cause, the result is that a distinct effort is needed to make out the meaning of a large proportion of the sentences, and that the patience and temper of the reader are unnecessarily tried and his satisfaction interfered with. May we not hope that a second edition will soon come to remedy the mistakes of the first.

Art. IV.—*A Treatise on Surgery, its Principles and Practice.* By T. Holmes, M. A. Cantab., Surgeon to St. George's Hospital. With four hundred and eleven illustrations, chiefly by Dr. Westmacott. Philadelphia: Henry C. Lea, 1876.

We have looked for this work from the pen of Mr. Holmes with great expectations, believing that it would be a model in its way, and probably the best work of its kind, not only for reference, but as a comprehensive text-book for the student. In very many of these points we regret to have to say we are sadly disappointed, and we fear that this must be the general verdict which it will receive from the profession, which had expected much from one holding so high a position, so well known as a diligent worker, and who had previously shown himself so gifted an author and editor.

The task of writing such a work as this aims to be, is, indeed, no easy one, as the author states in his preface. To group the principles and practice of surgery together with its pathology, and give the details of practice in such a way that the student shall gain a good insight into the whole, is a task which we doubt if any one can satisfactorily accomplish in a volume the size of this. The book is, indeed, lacking in the matter of detail, especially in reference to treatment, and even the principles of treatment are frequently not clearly laid down. We fear that the busy practitioner who turns to this work for instruction in the treatment of many affections will be sorely disappointed when, after reading a sentence or two, he finds he is referred to some other work for just the information he sought in this. It is not a gracious office to speak so harshly of any work, especially when it comes from such a man as Mr. Holmes. But this book certainly invites severe criticism in many respects. The various chapters are frequently condensed from the treatises of the elaborate "System of Surgery," of which the author is editor; and, indeed, he tells us that this work is intended to be, to some extent, an introduction to that more elaborate work. While speaking in this tone of the book, we are not at all unmindful that there is also very much of it that deserves the highest praise. The chapters on injuries of the head are clearly written, and very full and comprehensive for a text-book. The same also is to be said in reference to the subject of pyæmia, traumatic fever, etc. The subject of fractures and dislocations, however, is not so satisfactory, and we regret to see such an important branch as compound fractures touched upon so lightly. In respect to fractures of the femur, the author does not appear to be well acquainted with the advantages of the American method of dealing with those injuries. While speaking of intestinal obstruction, we are surprised to find no mention made of Simon's method of manual examination through the rectum. Diseases of the genito-urinary organs are not treated of fully, nor is this subject brought up to date. Operative surgery is treated altogether too briefly, and little or nothing is said in reference to the mortality attending various operations—a subject most important for the student to know. On the other hand, we turn with pleasure to the chapters on diseases of the bones, which are excellent, as are also those on diseases of the vessels. The work itself is profusely illustrated, and very many of the cuts are not only new but very well executed. Had the space, however, which many of these necessarily occupy, been given to the further elucidation of some points which are, in our opinion, too lightly dwelt upon, we believe it would have been better.

Art. V.—*A Series of American Clinical Lectures.* Edited by E. C. Seguin, M. D. Vol. II., No. 1. *The Principle of Physiological Antagonism as applied to the Treatment of the Febrile State.* By Roberts Bartholow, M. A., M. D., etc. 8vo., pp. 21. New York: G. P. Putnam's Sons, 1876.

The second volume of the series of Clinical Lectures which is being collected by Dr. Seguin, commences with a practical lecture by Dr. Bartholow, of Cincinnati. He discusses the principles which should guide us in the treatment of fever, but avoids committing himself to any special doctrine concerning its mechanism. In discussing these questions he directs us to consider the nature or intimate factor of any febrile condition with which we have to do, and to prescribe a remedy the physiological action of which is known to be in opposition to the several phenomena attending it. Thus, cold water will convey an excess of heat from the system, while the properties of quinine are supposed to be antagonistic to the conditions upon which fever depends, and it is not depressing to the vital powers. Digitalis is supposed to be especially indicated in scarlatina in consequence of the high temperature, rapidity of the heart's action, the low arterial tension, and embarrassed action of the kidneys in that affection; the remedy being, physiologically, an antagonist to all these phenomena. The author does not think the poison of the fever will be counteracted, nor can the fulminant form be controlled; but in ordinary simple and anginose scarlatina he hopes for *uniform* success. He uses the infusion of fresh English digitalis "in doses of a teaspoonful to a tablespoonful according to age, once in four hours."

The reviewer has certainly failed in one severe case of anginose scarlet fever, since reading the author's views, treated in the way specified, except that the fluid extract was employed in a corresponding dose.

In pneumonia, also, the employment of digitalis is recommended.

Aconite and veratrum viride may be employed, it is stated, when there is high arterial tension, in the *early* stage of an inflammatory disease with high temperature, with advantage.

Salicylic acid is spoken of in relation to its effects upon septicæmic fever, and the favorable experience of Immermann in certain fevers, rheumatism, etc., is given. The author seems to think, by its known power of arresting the activity of disease-germs and ferments, it may control the fever of septicæmia.

The points in the lecture are very ingeniously put; and, although but little that is particularly new in regard to the action of antipyretic remedies is elicited, the *brochure* may be considered a valuable contribution to medical literature.

ART. VI.—*Reports of the Medical Officer of the Privy Council and Local Government Board.* New Series, No. IV. *Annual Report to the Local Government Board with regard to the Year* 1874. 8vo, pp. 139, London, 1875, No. V. *Papers concerning the European Relations of Asiatic Cholera, submitted to the Local Government Board in Supplement to the Annual Report of the Present Year.* 8vo, pp. 230. London: Eyre & Spottiswoode, 1875.

No. IV. is made up largely of reports and statistics of small-pox epidemics and vaccination laws. Dr. Buchanan makes a "Report on Infectious Diseases in Birmingham and Ashton, and on the Hospital accommodations of those places;" and Dr. Ballard contributes a "Report on the Sanitary condition of Upper Sedgley Urban Sanitary District."

The bulk of Vol. V. is made up of a "Report on the Diffusion of Cholera, and its Prevalence in Europe during the ten Years, 1865–'74," by J. Netten Radcliffe, Esq. The facts and statistics collected by the author show almost conclusively that the diffusion of cholera is largely, if not entirely, due to human intercourse. The entire article is very thorough and evidently prepared at the expense of great labör. Maps are introduced illustrating the text.

Dr. Seaton also furnishes for this volume an "Abstract of Proceedings of the International Sanitary Conference held at Vienna, July 1 to August 1, 1874."

Mr. Simon makes the "Medical Officer's Report" for both volumes IV. and V.

It will be impossible, without entering into a long discussion, to give a satisfactory abstract of these reports, but we may say that they are exceedingly valuable in a sanitary point of view.

Art. VII.— *Warm and Hot Water in Surgery.* By Frederick E. Hyde. Reprinted from the *Buffalo Medical and Surgical Journal* (December, 1875; January and February, 1876).

The method of treating wounds by continued immersion in water of high temperature was first more prominently brought to the notice of the profession by Billroth in his and Pitha's "Surgery." More recently this practice has been further developed by Dr. Max Schede (Volkmann's "Clinical Lectures," No. 29), and by Prof. Hamilton (*Med. Record*, December 1, 1873). The above paper is a good compilation of the writings of these authors; in addition, the author has added other cases which have come under his own observation, and which tend still further to set forth this method. For this reason the paper is worthy of perusal by those of the profession who have not as yet familiarized themselves with the practice.

Books and Pamphlets Received.—The Medical and Surgical History of the War of the Rebellion. Part II., vol. ii. Surgical history prepared under the direction of Joseph K. Barnes, Surgeon-General United States Army. By George A. Otis, Assistant-Surgeon United States Army. First issue. Washington: Government Printing-Office, 1876.

Lectures on Fever: Delivered in the Theatre of the Meath Hospital and County of Dublin Infirmary. By William Stokes, M. D., D. C. L.

Oxon., F. R. S., Regius Professor of Physic in the University of Dublin, Physician to the Queen in Ireland. Edited by John William Moore, M. D., F. K. Q. C. P., etc. Philadelphia: Henry C. Lea, 1876.

Atlas of Skin Diseases. By Louis A. Duhring, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia, etc. Part I.—Eczema (Erythematosum), Psoriasis, Lupus Erythematosus, Syphiloderma (Pustulosum). Philadelphia: J. B. Lippincott & Co., 1876.

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Reports on the Progress of Medicine.

REPORT ON LARYNGOLOGY.

No. II.

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1. Stenoses of the larynx commonly occur as a result of ulcerative processes, or direct injuries, either accidental or suicidal, and mechanical or chemical in their nature. The degree of stenosis will depend upon the depth to which the process reaches, and upon the nature and location of the parts which are involved; they may vary from simple and unimportant cicatrices or bands, to absolute distortion of the laryngeal parts, or entire closure of the cavity of the larynx; most commonly the narrowest part of the lumen of the larynx—that is, the space between the vocal cords—is the one affected, and that principally at the anterior commissure. From this point the adhesions reach backward to varying degrees, perhaps to complete obstruction of the organ, and the respiratory current finds space only between the arytenoid cartilages.

In the majority of cases, then, the surgeon has to deal with cicatricial tissue, and the previous progress and results of the affection are clearly appreciable; to this rule, however, there are exceptions. The writer complains that this class of cases is not energetically treated by the profession. He considers that laryngotomy is usually indicated, and that it should constitute the extreme limit of the surgeon's aid, not be left until the last, and then employed only to save life. The cases cannot be treated successfully *per vias naturales*. Laryngotomy (section of the crico-thyroid ligament) is the best and most direct way to reach the desired point, and to relieve the condition, as well as to inspect and examine it.

The difficulty of treatment lies in the liability of the divided cicatrices to contract new adhesions, and again close together; to prevent this the author has constructed a new instrument, which is designed to pass up from the wound in the crico-thyroid membrane, through the divided membranous web between the cords, and remain in position, with daily change, until the cicatricial process is completed. A full description of this apparatus is given in his article.

During the treatment the canula must also be worn closed as much as possible, in order that the laryngeal muscles may play their part in keeping the edges of the incision apart from one another. When cicatrization is completed, should abnormal tissue still remain, it must be treated by the intra-laryngeal method, as the laryngotomy-wound should be closed as soon as possible.

He closes with these propositions: If a laryngotomy has already been made, the comfort of the patient demands that no time should be lost in fruitless efforts to reach and treat the laryngeal stenosis from the mouth, but that the adhesions should be energetically and directly attacked from below through the wound, laryngoscopic procedures only being employed as an aid.

If the patient is unable to carry on respiration through the larynx, the adhesions are certainly numerous or large. Laryngotomy and treatment from below are then indicated.

If respiration is uninterrupted and free, the adhesions slight in degree, but the aphonia marked, he still believes that time is lost by intra-laryngeal endeavors to effect relief, and advises again the laryngotomy, division of the strictures and the prevention of their reëstablishment, by keeping the divided edges apart by means of his apparatus or some similar means.

In conclusion, he narrates the history of a case which illustrates the foregoing points.

4. The success which attended the application of an artificial larynx, after extirpation of the original organ, has led Reyher to apply it to those cases where there has been destruction, more or less complete, of the larynx, stenosis, etc., from inflammatory action, as is so often seen after syphilis, typhus, and variola. In such cases tracheotomy has always been done, and recently the stricture of the larynx has been dilated; but the patient is without voice. Reyher uses, instead of the hollow cylinder of Schrötter, for dilatation, one in which vibrating bands are arranged; in other words, an artificial larynx, which he claims answers two indications—it keeps the stricture dilated, and gives the patient an intelligible voice. He adds to his article the history of an interesting case where his artificial larynx was applied, with a description and cut of the apparatus itself.

Sawyer considers phthisical laryngitis to be a peculiar form of chronic inflammation of the larynx; it is met with in most cases of chronic pulmonary consumption. It usually follows the development of the disease in the chest. For a time it occasionally exists alone, but lesions of the lungs always subsequently arise. It is the laryngitis of the phthisical. Adults are more subject to it than children, and men than women. He divides the local changes, as seen in the laryngoscopic mirror, into four groups, making four distinct stages of the affection. These are: the anæmic, the œdematous, the ulcerative, and the necrotic. The malady is a painful one, and, when it has passed into the second stage, always fatal. Treatment affords but little relief. He speaks most confidently of the good results, however, which arise from the frequent applications of a solution of silver (ʒ j to ℥ j), and believes that in the first stage it stimulates the nutrition of the larynx, and so combats the local anæmia; that in the second stage it reduces the tumefaction, and that in the third it checks the ulcerative process. In all stages he claims that it deadens the morbid and painful sensibility of the affected parts.

9. Klemm has long since discovered that the most common symptom of disease of the vocal cords, the hoarseness, is not at all in proportion, in very many cases, to the anatomical causes; for instance, often with the most serious lesions, as well as with very slight changes in the cords, the same degree of hoarseness is present, with a slight degree of inflammation; the hoarseness is sometimes scarcely noticeable, at other times is most marked. Again, it may be serious when no laryngeal lesion is perceptible (hysteria). These differences depend upon the various workings of anatomical causes—upon the tension and movements of the cords—and the author has sought a means through which their vibrations could be made distinct by means of *sound-figures*. His efforts in this direction were not satisfactory. With a small gas-flame, however, which is so arranged in connection with a speaking-tube, before which a quickly-rotating cube of looking-glass stands, he was able to produce, with each tone, a certain clearly-defined picture; that is, there would be certain elevations and depressions, more or less sharply marked, in the strip of light which en-

circled the cube, and this picture varied in accordance with the grade of hoarseness. With a high normal tone they are small and pointed, while the deeper the voice the broader they become. These differences were constant. With an abnormal voice, no matter how slight a degree of hoarseness is present, the appearances presented are entirely different, and a short experience will enable the operator to distinguish them, and to appreciate the grade of the affection, even when it is not perceptible to the eye in the laryngoscopic mirror.

10. The history of the stenoses of the larynx and trachea is a subject of much interest, for reason of the rarity of observations which are published upon the subject, and the gravity of the symptoms which they produce—symptoms which demand a prompt and energetic treatment at the hands of the surgeon. The present article will be found a comprehensive and interesting one, and we regret that our space will not permit of a full abstract of it. The principal causes of stenosis of the parts under consideration, which are fully discussed in all their bearings by the author, are chronic inflammations, through the deposit of plastic material, injuries, burns, ulcerations, with subsequent contractions of cicatricial tissue, tumors either by the diminution of calibre which they cause when within the air-passages, or the compression or deformities of the elastic walls which they produce by pressure when they are external to them; and, finally, those rare cases of prolonged spasmodic contraction of the contractile elements of the larynx and trachea.

12. Schaffer reports the following curious case: A Tyrolean singer, who was under treatment for a severe laryngeal catarrh, sang despite the orders of his physician, and very suddenly lost all use of his voice. The laryngoscope showed that the right vocal cord was torn transversely across in its middle; the ends, which fluttered to and fro in the respiratory stream, were smooth, and presented the same appearances as a tendon would which had been cleanly cut by a knife. The wound healed, a slight thickening remaining at the point of division. The patient departed before his voice had fully returned.

14. Renzi reports the following case: A girl, aged seventeen, took a severe cold after exposure. The cough disappeared in a few days, but the aphonia remained. A local examination showed that the pillars of the fauces and pharynx were reddened, and the laryngeal mucous membrane, particularly that of the vocal cords, was hyperæmic. The latter were immovable during the efforts of the patient at phonation. There was no ulceration. Hydropathic treatment failed to relieve the aphonia. Faradization of the skin, in the region of the larynx, relieved the condition markedly at the first *séance*, and restored the normal voice after a few days. The writer says that this case contradicts the assertions of Bruns, Mackenzie, and Eulemburg, who state that laryngeal paralysis should be treated alone, by the direct application of the laryngeal electrode, aided by the laryngeal mirror, to the muscles of the larynx.

Eulemburg also states that faradization of the skin is only useful in cases of hysterical paralysis. Renzi's case proves this to be an error.

15. Beaumetz confirms Renzi's observation, and reports a similar case. A nurse of twenty-five years suddenly lost all use of her voice in consequence of a severe cold. The laryngoscope showed deep hyperæmia alone of the laryngeal parts and pharynx. A bronchitis was detected by auscultation. The diagnosis made was rheumatismal paralysis of the larynx, and electricity was advised. A current of moderate intensity restored, in a few seconds, a distinct and tolerably clear voice. After the *séance*—lasting twenty minutes—it was normal; but the improvement did not last twenty-four hours. The patient again became completely aphonic, and returned for treatment. The same procedure was adopted, and was permanently

successful. The author, in conclusion, advises this plan of treatment very strongly.

18. The patient, who had suffered for two years from aphonia, progressive dyspnœa, and laryngeal spasm, was found, upon the laryngoscopic examination, to have the cavity of the larynx more than half filled by two tumors, which were diagnosticated as *prolapsed ventricles.* That upon the right side, over the ventricular orifice, was immovable, but that upon the left returned fully within the ventricle during each act of phonation. Both tumors were cut away with scissors after the operation of thyrotomy had been done, and the microscopical examination confirmed the above diagnosis, the primary cause being an inflammatory swelling and thickening of the sub-mucous connective tissue, which had pushed the membrane before it, and protruded it through the ventricular orifices. The patient made a good and speedy recovery. Special attention is called to the case, as the writer believes it to be the first one where the condition described above has been diagnosticated during the lifetime of the patient, and the first in which an operation, having for its object the removal of both laryngeal ventricles, has been undertaken. Allusion is also made to the various theories regarding the function of the ventricles, and their bearing upon the case under consideration.

21. Treulich reports the case of a man who was seized by the throat by a horse, and lifted from the ground. In a few hours dyspnœa became so great as to require tracheotomy, when there was discovered a wide separation between the cricoid and thyroid cartilages, with rupture of the crico-thyroid membrane. The cricoid cartilage was split in two places, leaving the middle piece isolated, and the left ala of the thyroid was also broken off. The trachea was torn across obliquely, and had sunk down so that there was an opening, an inch in width, between the larynx and the trachea. A canula was introduced. Cure was complete at the end of three and a half months. The thyroid was somewhat unsymmetrical, the membrane of the larynx was reddened, the vocal cords thickened, and the voice was a little hoarse. Respiration was, however, easy, and the general health excellent.

26. Another case, in which the larynx was completely removed by operation, is reported by Maas, of Breslau. The first signs of trouble in the larynx showed themselves at the end of September, 1873. By the middle of the following April the patient, a man of fifty-seven, suffered so much from the stricture of the larynx caused by the large and growing tumor, that tracheotomy was performed by Dr. Riegner. By the 1st of June, however, the tumor came to press so much upon the œsophagus, that it was impossible for the patient to swallow the smallest portion of fluid. The operation of extirpation of the larynx was, therefore, performed by Maas, who found great advantage in adopting a modification of Rose's position, with the head hanging backward. After the operation, the patient found the frequent introduction of the œsophageal tube so painful that Maas, on the third day, passed an India-rubber tube through the wound, down nearly to the cardiac end of the œsophagus, and left it in that position. Through this the nutrition of the patient was satisfactorily carried on. On the ninth day he was able to leave his bed; on the eleventh an unsuccessful attempt was made to introduce an artificial larynx; on the twelfth, the bronchitis from which he had suffered since the tracheotomy became seriously worse, and on the fourteenth day he died of pneumonia. The microscope showed that the tumor, which involved the whole larynx, was an adeno-fibroma carcinomatosum.

27. Heine, of Prague, reports a case which he diagnosticated as concentric hyperchondrosis of the larynx, and which resulted in almost complete obliteration of the cavity of that organ. Tracheotomy had been

performed, with temporary relief, also a subsequent dilatation of the fistula, but the case became so urgent that, on December 18, 1874, Heine performed an operation which he terms *resection of the larynx*. It consisted in dividing the thyroid cartilage in the median line, and then making a sub-perichondrial dissection of the anterior halves of the two sides, and removing them with forceps. The operation was so far successful that the patient regained the power of speaking intelligibly, and of swallowing liquids and solids. Subsequently, however, his condition deteriorated, and he died of tuberculosis on November 2, 1875. At the autopsy, syphilis, which had been suspected, but denied, was proved to have been the cause of the laryngeal disease.

28. Robinson reports the history of a case of paralysis of both vocal cords following an injury (a direct blow upon the larynx), received some four months previously. The laryngoscope showed thickening of the inter-arytenoid commissure, congestion of the vocal cords, and small superficial ulcerations along the free border of the epiglottis. In phonation the glottis presented an oval appearance in its ligamentous portion—the vocal processes and cartilaginous portions acted normally. The patient complained of hoarseness and a sense of obstruction in the throat.

The treatment—the application of ferri perchloridum (ʒj—℥j)—was apparently without avail.

The doctor considers that the explanation of the cause is simple. Both recurrent nerves were either severely contused or lacerated at the time of the accident, owing to direct compression of them by the larynx and trachea.

37. Massei states that the fossæ which separate the larynx from the pharynx are a frequent seat of lodgment for foreign bodies. He has observed three such cases. In the first, a bone was fixed in the right fossa innominata; in the second, a leech had fastened itself to the right ary-epiglottic fold; and the third, the details of which case are given in his present article, was a pin which had been swallowed by a young lady, who attempted to hold it between her lips while laughing. The laryngoscope showed that it was firmly stuck into the mucous membrane, at the base of the right arytenoid cartilage, in such a manner that it stood vertically, and its head was on a level with the free edge of the ary-epiglottic ligament. After several attempts it was successfully removed.

39. Schrötter, in an interesting article under the above heading, says that the physician's first duty, when he is told that there is a foreign body in the throat, is to satisfy himself as to its presence. Often this is anything but an easy matter, and many persons deceive both themselves and their physician in regard to it. A careful and thorough examination is always indicated—sometimes some concurrent affection is found; oftener, however, after repeated search, the foreign body itself. Mistakes frequently occur in small children, where the examination is too often neglected, and it sometimes happens that the physician will diagnosticate laryngeal croup, while in reality a foreign body is in the larynx or trachea (the reporter has lately seen such a case), or the reverse. A careful exploration with the laryngeal mirror is, in such cases, the only means of differentiation. The symptoms induced by the presence of a foreign body are usually threatening. Intense pain in the throat, cough, dyspnœa, render suffocation apparently imminent. On the other hand, symptoms which were alarming in the beginning may quickly pass away. Foreign bodies may remain in the larynx or trachea for weeks, or even months, without inducing severe symptoms. He knows of one case in which the body was removed at the end of sixteen days, the only discomfort having been slight hoarseness.

If the foreign body is not lodged in the larynx, but is moved up and down during the act of respiration, the symptoms are much more alarming. In such cases the violent attempts at coughing will sometimes lead to emphysema of the subcutaneous cellular tissue. If it finally lodge in either larynx or a bronchus, the symptoms may gradually pass off, and only reappear when either itself or the tissues in its vicinity have undergone changes. There is then a sense of oppression over the chest, accelerated respiration, muco-purulent expectoration, and the body is either expelled or encapsulated.

The prognosis varies according to the location of the foreign body, and the changes going on in and around it. The cases in which it is quickly expelled by coughing are not at all infrequent. It also varies according as the body is firmly fixed or moves with the respiratory act.

In treatment, we should not always, he says, be in too great haste to use instruments. Many cases occur in which the symptoms moderate, and render the removal of the body quite easy. He instances the case of a girl with a pencil in her trachea. A full inspiration, with a sudden quick expiration, expelled it at the first attempt. If the symptoms are urgent, tracheotomy must be performed, the laryngoscope being first used, if possible, to determine the location of the foreign body, and thus fix the point for a high or low operation, as the case may be. The laryngeal pincette is the first and most important instrument for use in this class of cases, and Schrötter has treated all his cases but one by its means alone. He advises that the body, when seized by them, should not be forcibly removed, but that it should first be loosened by a lateral motion and then extracted. The paper is illustrated by the histories of a number of cases of foreign bodies in the air-passages, which its author has treated.

40. Doig reports several cases of this disease which occurred among the soldiers quartered at Aldershott, during the winter of 1874–'75. They all presented the same symptoms as the cases reported by Murchinson some little time since, but suppuration occurred in quite a number, and the following case terminated fatally: The patient, twenty-two years old, presented, when first seen, the usual symptoms; the sub-maxillary, sub-lingual, and parotid glands were swollen and hard; this swelling increased; the skin became œdematous, and the breathing difficult. Incisions were made under the tongue and externally, but no matter escaped, and on the fourth day death ensued. Forty-three hours after death an examination was made, and a large swelling occupied the neck, chiefly on the left side but extending somewhat to the right and down about midway between the lower jaw and the clavicle. On removing the skin over the swelling the tissues were found in a gangrenous state, being filled with a brownish-colored, fetid, semi-fluid matter. All the tissues, including the glands and muscles, were involved. The portion of the lower jaw in contact with the diseased glands was denuded of periosteum; the larynx was surrounded by the morbid mass, but the tissues posterior to the pharynx were not involved; the mucous membrane of the fauces, that covering the epiglottis and the whole of the larynx were in an œdematous state. The lungs were deeply congested and contained hæmorrhagic infarctions, and the lung-tissue around contained numerous small deposits of tubercle. The other organs were found to be in a normal condition.

46. In regard to the time after infection that tertiaries appear in the pharynx, Hill believes that a shorter interval is customary than is generally laid down in text-books. He cites sixteen cases, in which the date of infection, and that of the beginning of the throat-disease, were clearly made out in nine. In seven patients, three had the primary lesion long anterior to their throat-disease; two were married women with syphilitic histories; the other a man who had been infected more than five years; in the remaining four, one was infected five years ago, and had his throat fourteen months affected; in another a circumscribed gumma began two years

after infection. The remaining two patients were young, eighteen and ten years respectively, and their syphilis dated from infancy, being probably inherited; they were not sure when their throats were first affected, though they commenced to be several years ago. In the nine cases, in one the disease began three years after infection; in four, between four and seven years; in two, more than seven years; and in the remaining two, more than ten years elapsed between infection and the outbreak of tertiary in the throat.

From the data it would seem that four or five years is the commonest period for syphilitic persons to become liable to gummous disease of the palate and pharynx, though it is not infrequent for their disease to begin sooner than that.

There are, he states, two forms of gummy disease of the palate and pharynx: the *circumscribed*, and the *diffuse* or infiltrating. Their anatomical seat is the mucous membrane, the sub-mucous or muscular layers. The *circumscribed* gumma is the most common form both in the velum and in the pharynx proper. It is usually single, though not invariably so; owing to the insidious progress it rarely attracts attention until it breaks by ulceration. The ulcer is circular or nearly so, the surface irregular, hollowed; through its covering of adhesive pus project shreds of gummous tissue not yet detached, and irregular granulations. The edges of the ulcer are characteristic; they are thickened, raised, and reddish, forming a frame to the sore. The *diffused or infiltrating form* develops in two varieties, that which limits itself mainly to the mucous membrane, anp the severer variety which penetrates the sub-mucous and muscular layers. The first leaves wide-spread seams and branching scars, the site of former creeping ulcers, but, the deeper layers having escaped, the organ retains its mobility and has apparently undergone no detriment of function. The penetrating variety converts all it reaches into a tough, brawny, resisting tissue, and its progress is difficult to arrest before the whole velum and pharynx are essentially altered in structure; a considerable surface is invaded before ulceration begins, but sooner or later the surface breaks, often at several centres.

The treatment resolves itself into curing the general cachexia and allaying the local suffering. The iodides of potash, soda, or ammonia, are the chief resources. In most cases it is only necessary to begin with moderate doses of iodide of potash and gradually increase them by adding one-third to the dose every three days, as long as the gummata are not absorbed and the ulcers unhealed; as soon as they are healed the iodide may be lessened, and after a few weeks omitted for a time altogether.

If the patient cannot take the iodide without producing iodism, iodide of soda will perhaps be borne well, and both will be more efficacious when taken with carbonate of ammonia. Sarsaparilla will also afford tolerance for large doses. The drugs should always be taken on a full stomach. The next drug in order is mercury, and, though it is advisable to delay its administration until the iodides have driven away the gumma, healed the ulcers, and restored the patient's strength to some extent, mercury should always form part of the course; when iodides cannot be borne, it may be tried at once; either inunction may be used, or the drug given by the mouth. When the patient, then, has been fitted with the form of antidote, whether of iodine or mercury which he can absorb, his recovery may be assisted or his suffering relieved by opium in small, frequent doses, and strength be given by iron, quinine, or cod-liver oil. As regards local remedies, caustics must be avoided.

Cleanliness is essential; assiduous sponging, with soothing lotions, is the most successful.

48. Porter's case presented all the appearances and gave the history of

an acute inflammation of the tonsil. On the second day after he was seen, the swelling had increased and elongated, extending externally along the posterior edge of the sterno-mastoid muscle for about four inches; the swelling was also much increased internally, and the patient could only swallow with difficulty. This state of things was accompanied by delirium. The following day the abscess was opened and six ounces of pus evacuated. He states that abscess of the tonsil is comparatively rare, and that it is still more so to find it take the course it did in his case. He advises strongly against the use of *large* poultices, saying that they increase the *area* of suppuration, often to an alarming degree.

49. Bouchut, after speaking of the acute forms of angina, as well as the ulcerative and gangrenous, calls attention to a form of chronic disease which is characterized by its persistency and by its location over the tonsils. The white points and patches which appear frighten many, but are in reality of little import. They are due to caseous products, which have their origin in the follicles of the hypertrophied and chronically inflamed tonsil; they are made up of fatty materials, with or without odor, intermixed with degenerated epithelial cells, and vary in size from that of a grain of hemp to that of a mulberry, the latter occasionally giving a roughened exterior to the glands; they remain fixed for days or months, are reproduced in a measure if removed by means of a *curette*, but persistent treatment by its means will cure the condition.

54. Watson, in referring to Ferrier's communication, "How to cure a Cold in the Head," speaks very highly of the good effects of tobacco-snuff. The first pinch generally excites sneezing, but, after the second or third pinch, the powder remains in the nostrils and forms a coating for the mucous membrane. A flow of thin serum then begins, and the sense of obstruction and fullness at once subsides. In a few hours the cold is cured, or at latest survives only a single night. The snuff should be used freely, and the coating formed by it on the mucous membrane should be left undisturbed for several hours, blowing the nose meanwhile being avoided, until all feeling of stuffiness in the nostrils has subsided.

55. Ferrier, to cure a "cold in the head," recommends the use of a snuff composed as follows: Hydrochlorate of morphia, grs. ij; acacia-powder, ʒ ij; trisnitrate of bismuth, ʒ vj. Of this powder one-quarter to one-half may be taken as snuff in the course of twenty-four hours. The inhalations ought to be commenced as soon as the symptoms of coryza begin to show themselves, and should be used frequently at first, so as to keep the interior of the nostrils constantly well coated. Bismuth alone answers a very good purpose, but the acacia is added to give greater bulk to the powder, and to make it sufficiently light to be easily snuffed. The morphia is added in cases where it is advisable to strengthen the sedative effect. The doctor speaks of it as almost a specific, and as being capable of aborting a "cold" in a few hours.

57. Tillaux reports, in the above journal, the case of a woman of sixty-five, who sought advice for an ozæna of two years' duration. While exploring the nasal passages with a stylet, he felt a denuded surface of bone near the upper border of the vomer; thinking that necrosis existed, he awaited the formation of a sequestrum. Some months later, during a new exploration, he extracted a small, blackish body, looking like a vesical calculus. On section this proved to be a cherry-stone, incrusted with a calcareous deposit one and a half millimetre in thickness. It had destroyed the vomer and lay across the septum. (The reporter has treated, within the past week, a case which presents many of the same features, but which is more remarkable on account of the length of time that the foreign body had remained in the nose. A girl of twenty-four had had ozæna since she was seven years old, had tried various treatments without avail, necrosed bone

had been diagnosed ; her trouble was always unilateral ; inspection and the probe rendered the diagnosis of foreign body easy, and, upon its removal, it was found to be a bean, thickly incrusted with a phosphatic deposit; slight excoriations alone of the mucous membrane, upon which it rested, were the only evil effects upon the parts, caused by its long sojourn.)

69. Shaw deprecates the promiscuous use of the nasal douche by the profession, and especially by the laity without advice. The great extent to which it is used is perhaps not fully known to the general practitioner, but the specialist has abundant opportunities for witnessing its effect, not only in the diseased state, but in health. In his experience, a great proportion of those who use the douche or other apparatus are found to have no trouble in the nasal cavity. He, with other aurists, considers the treatment of nasal catarrh with the douche as being attended with serious danger of producing inflammation of the tympanum, with all its sequelæ, and, to prove this, he details the history of eighteen cases. In five there was acute otitis media, with perforation of the drum from the douche. In five there was acute otitis media, without perforation from the douche. In two there was subacute otitis media, without perforation from the douche. In one there was an increase of chronic otitis media. In one there was an acute otitis media, without perforation from the syringe. In one a subacute otitis media, without perforation from the syringe. In one an acute otitis media, with perforation from snuffing liquids up into the nostrils. In one there was a subacute otitis media in one ear and the formation of polypus in the other ear, from forcing liquids into the tympanum by the Valsalvian method.

Contributed by Drs. E. H. BRADFORD, EDWARD FRANKEL, and GEORGE R. CUTTER.

SURGERY.

Abscesses between the Liver and Diaphragm.—M. Joanny Rendu (*Lyon Médicale*, No. 2, 1875) reports the case of a man, forty years old, who entered the Hôpital de la Croix-Rousse on June 22, 1875. Previous to the manifestations of his then illness, he had never been sick. One year previous to admission he suffered from palpitations, oppressed breathing, and cough ; two months previous he lost appetite, flesh, and strength. He now suffered from dyspnœa, and anorexia, with fever, and œdema of the lower extremities. There was considerable bulging of the right side of the chest, but no pain or jaundice. The hepatic dullness extended upward to about three finger-breadths below the nipple, and downward a little below the umbilicus. A cyst (hydatid ?) on the convex surface of the liver was diagnosticated. The patient becoming very feeble, the cyst was punctured on July 6th, and exit given to two and a half litres of a puriform and very fetid liquid, in which no characteristic hooks were found. After the operation, which greatly relieved the patient, the dullness diminished notably, and the patient felt relieved until July 23d, when he had a chill and some cough ; on examination bronchitis was found. On August 10th signs of pneumonia were discovered near the base of the right lung, and there was much fever. On August 13th, during a paroxysm of cough, he vomited a yellowish-gray liquid which was very fetid, and resembled that discharged by the puncture. The vomiting was renewed on September 15th, and the patient died from exhaustion. At the autopsy the liver was found fatty. Between its convex surface and the diaphragm there existed a vast pouch containing one litre of the same fetid liquid. Two ragged canals were found in the diaphragm, which opened directly into the lung, and the upper surface of the diaphragm had undergone intimate adhesion with the lung. E. F.

Suppurated Frost-Bites.—Add three grammes of salicylic acid to one hundred grammes of boiling glycerine. Apply a thin coating of this solution to the sore with a small brush, then cover with a pledget of cotton, which is to be kept in place with adhesive plaster. If the suppuration is profuse, change the dressing every day; in the contrary case, every three or four days.—*Bordeaux Méd.* and *Prog. Méd.*, February, 1876. G. R. C.

Nicotine in Tetanus.—The following case is reported by Dr. G. M. Wuth, in the *Australian Medical Journal:* A healthy man, twenty-one years of age, in falling from a horse, sustained an injury of the scalp and became unconscious. A fortnight later, he had so far recovered that he could again follow his occupation, that of a shearer. Three months later, while standing for hours in cold water, he caught cold and was taken with tetanic spasms. Wuth found him lying on the back, the knees being drawn up to the face. The lower jaw was fixed and both angles of the mouth were retracted; the pupils were somewhat dilated, the eyes fixed, the nape of the neck was stiff, and all the muscles, especially those of the abdomen, were rigid. During the height of the paroxysms, the abdominal muscles contracted so forcibly that flatus escaped from the rectum and froth flowed through the teeth; deglutition was impossible. After the rectum had been emptied by an enema and the bladder by the catheter, the patient moved his arms with difficulty, and indicated the lower portion of the sternum and the lower ribs as the seat of pain. Chloroform inhalations were then tried, and from them temporary alleviation obtained for about three days. On the fourth day, however, opisthotonos set in with such intensity and the tetanic spasms became so frequent, that Wuth decided, as a last resort, to try nicotine, as recommended by Hobart. Half a drachm of a solution of one grain of pure nicotine in one ounce of water was injected into the cellular tissue of the thigh. The pulse immediately fell to sixty beats, all the muscles, except those of the neck, became relaxed, and the patient began to sweat. He fell into a healthy sleep which lasted four hours, and on awaking had regained full use of the organs of speech. His first remark referred to his leg, which he said "felt as if asleep." After the administration of wine and an egg in milk, a pill of one grain of aqueous extract of nicotine was given, after which he again slept five hours. Though his whole body felt as if he had been beaten, all tetanic spasm had disappeared, and the discharge of fæces and urine took place normally. On each of the three following nights one pill was given, after which he recovered completely.—*Med.-Chir. Centralblatt.* E. F.

Transplantation and Implantation of Hairs.—The possibility of epidermic grafting has been proved; up to the present time, however, we have not possessed observations sufficiently demonstrative of the possibility of the transplantation of hairs, although the anatomical conditions of the hairs, when pulled out with the roots, rendered its feasibility reasonably probable. In the bulb of the hair we also have an epidermic stratum, besides a sheath of cells from the Malpighian stratum, as is proved by the presence of pigmented cells.

As has been noted, the transplantation attempted only with the trunks of the hairs, although pulled out with the epidermis, has not been very successful. Schweninger (*Zeitschr. für Biologie*) afterward tried whether transplantation of hairs provided with their bulbs could exert any action on the healing of wounds. The experiment, made at Nussbaum's clinic, was successful. The process consisted in placing the hairs over a granulating surface, or, which occurred more rarely, inserting them in the depths of the granulations. The projecting shafts having been cut off, the parts were covered with a light dressing, and carbolic medication employed. The transplantation was particularly successful in superficial granulations resulting from burns, and in plantar ulcerations after the separation of the gangrenous fragments of skin. In the successful cases, a disk of cicatrices started from the point of implantation and spread over the adjacent parts, and contributed extensively to the hastening of the cicatrization of the wound.

Another series of experiments refers to the implantation of hairs freshly pulled out and provided with the hair-bulb and the root-sheath. Schweninger transfixed the cornea with a fine needle and then introduced through the puncture a hair, pulled from the edge of the lid or the eyebrow, and with the greatest care brought it in contact with the surface of the iris. Occlusive medication was not necessary, as the stump was cut short external to the cornea. In the greater number of cases, the hairs excited no reaction in the iris, irritative and suppurative phenomena were rarely manifested, and the eye was never lost by panophthalmitis. Around the corneal orifice there was scarcely any cloudiness produced, the trunk of the hair remaining movable at that point. The bulb of the hair, with its epithelial sheath adherent to the anterior surface of the iris, became a point of departure for an active epithelial proliferation, which, in the form of an elevated cone, made its way up the hair and finally formed a synechia with the cornea. The hair implanted in the proliferating nucleus continued to vegetate.—*Lo Sperimentale*, January, 1876. G. R. C.

Penetrating Wounds of the Knee-Joint.—In concluding a report of eight cases of this form of injury, Dr. A. Gayet arrives at the following conclusions: 1. A penetrating wound of the knee-joint, when made by a pointed instrument and without complication, is not dangerous, provided it is allowed to cicatrize in an immovable position. 2. When left to itself or improperly treated, arthritis of the most formidable character may result. 3. The dangers of arthritis are in direct proportion to the extent of the wound and the difficulties which prevent union by first intention. 4. Complications of the bony structures render the case extremely grave; nevertheless, fractures of the patella, if complicated, do not call for amputation or resection. 5. The presence of foreign bodies, however small, determines arthritis and its consequences, and demands amputation or resection. 6. Posterior wounds would seem to be more dangerous than anterior wounds, on account of the density and number of the tissues, the presence of vessels, etc.—*Lyon Médicale*, 4, 1875. E. F.

New Method of Sounding for Vesical Calculi.—Dr. Van Brabandt calls the attention of surgeons to an easy and novel method of sounding the bladder for stone. Having had occasion to puncture the bladder of an old man, suffering from retention of urine, in the hypogastric region by means of Dieulafoy's aspirator, certain symptoms led him to suspect the presence of a calculus, whereupon he made a thorough exploration of the bladder with the canula of the capillary trocar. This method can be employed when the introduction of a sound leaves the surgeon doubtful as to the presence of a stone, especially where the stone is lodged behind the prostate or in vesical cysts. In doubtful cases it is advised to combine both methods.—*Arch. Méd. Belge; Revue Thérap.* E. F.

Cancer in its Clinical Aspect.—Prof. Nussbaum, after fifteen years of study, and experience of about one thousand patients with cancer, obtains the following conclusions:

1. Cancer is a proliferation of the epithelium, which rapidly extends and expels the cellular stroma, advances to ulceration from trivial causes, and occasions local destruction; by hæmorrhage and the loss of pus it causes extreme infirmity; and, finally, distributing its particles throughout

the body, and into various organs, generates the same proliferations, and causes a fatal termination.

2. As causes, should be regarded advanced age, suffering, and mental distress. It should be stated, in addition, that all the products which have an indifferent relation between the epithelium and the cellular tissue dispose to this disease; for example, verruca, cicatrices, induration of the glands. Finally, those parts are affected with cancer which are often irritated, but which have never been acutely inflamed. Cancer is neither contagious nor congenital. It is at first an entirely local disease, and becomes a dyscrasia only by absorption.

3. Humoral infection is quite different from cancerous dyscrasia. The former may thus completely disappear, and does not contraindicate operation.

4. The relapse of cancer is either *continuous*, if cancerous elements remain; or *regional*, if adjacent diseased tissues disposed to cancer remain; or a relapse from *transplantation*, if cancerous particles penetrate the vessels, and thus enter the circulation and are conveyed together with the blood.

5. Cancer is radically curable by means of careful and extensive operations.

6. Patients who undergo an operation live longer, according to exact and extensive statistics, than those who neglect the operation.

7. All the means which act on the tissues, the blood, and nerves, may be taken into consideration. A careful and extensive operation stands at the head of these. Medicines are frequently efficacious, especially after the removal of the cancer. Iodine, arsenic, and condurango, are in all cases valuable internal remedies. Parenchymatous injections merit our closest attention. Disinfectants and narcotics are absolutely indispensable at an advanced period.—*Archi. di Med.* and *Lo Sperimentale*, March, 1876. G. R. C.

THEORY AND PRACTICE.

Epilepsy treated with Sulphate of Copper; Presence of a Large Quantity of Copper in the Liver.—At the meeting of the Académie de Médecine, February 22, 1875, Claude Bernard, on behalf of MM. Bourneville and Yvon, stated that during March, 1874, they had subjected several epileptic patients in M. Charcot's wards to treatment by ammonio-sulphate of copper. One of these patients, in the course of four months, took 43 grammes of this salt; as no effect on the malady was attained at the end of that period, the remedy was stopped. At this time the attention of the profession was directed to the toxic effects of the salts of copper. The presence of copper had been detected in the liver of two women who had been poisoned by copper. On the death of the above patient, the liver was subjected to chemical analysis, and the following conclusions arrived at:

1. The ammonio-sulphate of copper, far from diminishing the number of attacks, on the contrary augments them. The daily dose had been increased progressively from 10 to 15 centigrammes. The only disagreeable effects noted were, vomiting, sometimes alimentary, sometimes composed of a glairy liquid having the color of verdigris, colic, and transient diarrhœa.

2. At the autopsy neither stomach nor intestines revealed any alteration attributable to the sulphate of copper.

3. Chemical analysis of the liver showed this organ to contain 295 milligrammes of metallic copper, corresponding to 1.166 grammes of sulphate of copper. This quantity must be regarded as very considerable, since the remedies had been discontinued three months before, and a certain amount of copper ought to have been eliminated in the mean time.—*Gazette Médicale*, 12, 1875. E. F.

Typhus communicated by Vaccination.—In the commune of Campomarone there is an institution for young ladies, under the charge of the Sisters of Charity, which contains one hundred and thirty young girls. The girls are divided into three classes: large, medium, and small, and these are separated from each other. One of the boarders was recently attacked by variola, and Dr. Parodi, the house-physician, thought proper to vaccinate the others to prevent an epidemic. He commenced with the older ones and vaccinated fifty; ten of these were successful. Three weeks later, thirty-four of those who were unsuccessfully vaccinated fell sick at nearly the same time; all were attacked by typhus and three died. Their sanitary condition, before the epidemic, had been excellent, and the regimen was very good.

The virus used was humanized, and Dr. Domenico Bomba, who makes the report, does not doubt that it was the vehicle of the infection. He believes that the ten successfully vaccinated cases escaped the epidemic because the typhus virus and the vaccine mutually neutralized each other. It was impossible for one of them to make its explosion without annihilating the other.—*La Nuova Liguria* and *Le Progrès Med.*, January, 1876. G. R. C.

On Diminution of the Pupil in some Patients with Cardiac Disease.—Dr. A. de Giovanni (*Annali Univ. di Med. e Chir.*) has observed a marked diminution of the pupil in several patients who had cardiac disease. This condition was especially observed in three cases. The first was one of aortic stenosis with valvular insufficiency; the dyspnœa was constant. The second was one of narrowing of the left auriculo-ventricular orifice, with mitral insufficiency; the patient's respiration was short and painful, especially when suffocative attacks took place, with a feeling of constriction of the chest. The third patient had aortic and mitral insufficiency, and had suffered from asthma for a long time. These three patients had one symptom in common—bilateral myosis. It was not constant, but presented itself only in connection with other grave symptoms. The author believes this myosis to be paralytic in its origin. The radiating fibres of the iris, which, according to Budge, Schiff, etc., are controlled by a branch of the great sympathetic which passes from the superior cervical to the ophthalmic ganglion, and thence to the pupil by the ciliary nerves, are paralyzed; the action of the sphincter not being counterbalanced, the contraction is produced. The author's researches lead him to believe that there is a lesion of the superior cervical ganglion—namely, venous stasis as a result of disordered circulation in cardiac diseases. He has been able to demonstrate cases of such venous stasis. The conclusions arrived at are: myosis paralytica in patients with cardiac disease is a symptom which determines a very grave prognosis, because it indicates the morbid implication of a portion of the cervical ganglion of the sympathetic, under the influence of which the lungs and heart are placed. The author has tried to verify his theory by experiments in animals, in establishing a central obstacle to the circulation. Not succeeding in tying the superior vena cava, he confined himself to tying the subclavian at its junction with the jugular. This, however, did not prevent the collateral circulation, and hence stasis of the superior cervical ganglion was not produced.—*Gazette Médicale*, 16, 1875. E. F.

Signs of Death.—Pr. Prof. Hedenius closes a lecture on death (*Upsala Läkareförenings Förhand.*, Bd. x., No. 1) with a summary of the principal signs of death. Among these he considers the cadaverous eye, and particularly the softness of the eyeball and flabbiness of the cornea, previously metioned by Faure, to be of great value; but the imbibition spots on the white of the eye, mentioned by Larcher, he often finds absent for a long time, especially in the cadavers of persons with senile marasmus or great anæmia. Among all the several signs of death which precede true decomposition, he places the greatest reliance on the bluish-green discoloration of the skin over the ileo-cæcal region. He does not think this discoloration depends on the action of the sulphuretted hydrogen on the coloring-matter of the blood, since the discoloration does not first occur on the deeper surface of the abdominal covering, but takes place first on the skin and thence spreads inward. He considers it more probable that this originates in putrefactive bacteria of external origin, which by their fermentative action form, besides other secondary products, a coloring-matter.—*Nordiskt Med. Arkiv.*, Bd. vii., Fascic. 4. G. R. C.

GYNÆCOLOGY.

Ecbolic Action of Quinine.—Dr. Chiarlione presents some new facts against the ecbolic action of quinine (*Gazz. Med. Ital. Lombard.*, 1876). He is not satisfied with the fine experiments on the action of quinine on the uterus made by Dr. Chirone (*Lo Sperimentale*, 1874–'75), and in opposition states that physiology always determines the activity of remedies with toxic doses, which can neither be done nor accepted by clinical experience. From accurate observations made of puerpera at the Maternité, in Milan, he draws the following conclusions:

1. The sulphate of quinine is incapable of abbreviating the pause between one contraction and another, and hence cannot augment the number of the latter.

2. The duration of the contractions before and during the action of quinine does not vary sensibly; this drug would, therefore, be a disadvantage (perhaps from the sedative action exerted on the nervous system in general?).

3. Quinine, given near the time of parturition, in doses of 0.50—0.75—1.00—1.50 gramme, has no sensible action on the condition of the fœtus.

4. Quinine does not seem to possess any virtue to augment the intensity of the uterine contractions.

5. The contractions, whether regular or irregular, suffer no change in their modality from any action whatever of quinine.—*Lo Sperimentale*, February, 1876. G. R. C.

Vicarious Menstruation by the Rectum.—Dr. Barrett (*France Méd.*, March, 1876) observed this condition in a girl seventeen years of age, who at every month since the epoch of puberty had a sanguineous flux from the rectum, which the doctor regarded as a substitute for the menstrual flow. This hæmorrhage was repeated every twenty-eight days, and lasted three or four. Nothing in the constitution of the girl was found which could explain this anomaly. She married, and after a regular pregnancy gave birth to a well-formed child. From the commencement of this pregnancy to its termination, nothing abnormal was observed. The uterus contracted regularly after the parturition, and the mother nursed the child.

Fifteen months later the sanguineous flux reappeared from the rectum, and continued with its regular periodicity until the cessation was caused by a second pregnancy, and, later, a third. These were regular, and were followed by the same phenomena as the first.—*Gazz. Med. Ital. Prov. Venete*, April, 1876.
G. R. C.

PHYSIOLOGY.

Lesions in the Liver after Obliteration of the Portal Vein. By Dr. Solovieff (*Virchow's Archiv.*, lxii., f. 2).—Some pathologists (Frerichs, etc.) consider cirrhosis of the liver to be the cause, while others (Gintrac, Boskin) look upon it as the effect, of thrombosis of the portal vein. The experimental researches which the author has made in the investigation of this subject have led him to conclude that obliteration of the portal vein, when it develops slowly without producing embolism or abscess in the liver, determines extensive interstitial lesions in this organ. The experiments consisted in ligating, in dogs, sometimes the superior mesenteric, at others the splenic vein; and the author thus, in some cases, obtained obliteration of the portal vein, and the animals survived the operation for weeks and months. Direct ligation of the portal vein gave rise to local peritonitis, or emboli and abscesses in the liver.—After death the liver was found diminished in volume, the tissue of the gland was hard, anæmic, and of a brown coloration. Coagula, some consistent, others soft and in course of decomposition, were found in a certain number of enlarged vessels. The gall-bladder was generally filled with bile of a brown color and sirupy consistency.—Microscopic examination revealed the hepatic cells diminished in volume, and of an irregular form; most often they were rounded, but at the same time shrunken, as they are seen in dried specimens. Their contents were yellow, and contained fat-globules; in some the nuclei were hardly perceptible, in others completely effaced. The hepatic cells were easily removed from their position within the vessels, and then could be seen a network of dilated capillaries surrounded by thickened, homogeneous, and intersecting connective-tissue fibres. The ramifications of the portal vein were filled by finely-granular coagula. In the course of these vessels, whose walls were thickened, there was an accumulation of connective tissue in different stages of development, some entirely fibrillar, some of recent formation, with fusiform cells with multiple prolongations. These latter joined in some places with the connective tissue interposed between the hepatic cells. The walls of the arteries were thickened and surrounded by a strong layer of connective tissue. At certain points these walls presented fine granulations; occasionally the detritus of coagula was found in the arteries, and at these points, surrounding the thrombus, the internal coat was corrugated.—When the portal vein was tied directly, the condition was a very different one. In these cases death takes place in from four to twenty-two hours after the operation. The hepatic cells are found augmented in volume, of irregular form, with turbid and finely-granular contents. Two nuclei were often seen. The capillaries were obstructed by blood-globules. In some of the fine ramifications of the portal vein, the globules seemed agglutinated to the wall so as to leave the vessel pervious. In other more voluminous ramifications of the portal vein, the blood-globules were contained in the meshes of a network of coagulated fibrine. In some cases the coagula were already in course of decomposition. The central veins were filled with unaltered blood-globules.—In considering the pathogeny of these lesions, the author attributes the turbid tumefaction of the hepatic cells, observed after sudden obliteration of the portal vein, to the diminution of blood-supply. The production and degeneration of the coagula in the ramifications of the portal vein are explained by stasis, and the tumefaction and induration of the walls of the arteries to the diminution of lateral pressure. The atrophy of the hepatic cells which is observed when the obliteration of the portal vein has continued some time is naturally explained by the insufficient supply of blood.—In regard to the connective-tissue proliferation which accompanies the ramifications of the portal vein, the author thinks that it can best be explained by the fact that the connective tissue is placed in a condition most favorable for its proliferation by the retraction of the walls of the vessels and the atrophy of the hepatic cells.—*Gaz. Méd.*, 14, 1875. E. F.

Action of Biliary Salts on the Pulse, etc.—MM. V. Feltz and Ritter report that the injection into the blood of the biliary salts in solutions corresponding in strength to that of the bile produce the same symptoms as the injection of bile, viz., diminution of the frequency of the pulse and respiration, lowering of the temperature, and arterial tension. This result is not caused by injections of solutions of cholesterine in the biliary coloring-matters. The action of the biliary salts is chiefly exercised on the blood, and by this means on the muscular system, which was found to be impaired in its contractility.—*Gaz. Hebd.*, March 17, 1876. E. H. B.

DISEASES OF WOMEN.

Separation of the Pubic Symphysis during Labor.—An interesting case of this accident was observed in the obstetrical clinic at Erlangen. The patient was thirty years of age, of medium stature, healthy and robust; had been confined naturally three times previously. This fourth labor, after the waters had broken spontaneously, became tedious. Dorso-posterior presentation of the right shoulder was made out and transformed into the second breech position by combined external and internal version. One hour later, when the neck was more dilated, version was performed; child born asphyxiated. Several days after, the patient complained of a pain in the middle of the symphysis, which was exaggerated by any movement of the lower extremities. Treatment was confined to the application of a pelvic belt, which sufficed to approximate the osseous ends and to assure their firm union at the end of a month.—*Revue de Thérap.*, 2, 1876. E. F.

Chronic Hyperplastic Endometritis of the Uterine Body.—Olshausen (*Archiv f. Gynäk.*) under this title describes a peculiar inflammation of the uterine body, which is the cause of long-continued and often very copious so-called functional hæmorrhages as they most often occur during the climacteric period. This chronic affection leads to a considerable thickening of the uterine mucous membrane, with preservation of its normal elements, especially of its epithelium and glands. The latter were found moderately dilated, as also were the blood-vessels, and the connective tissue was infiltrated; almost the only symptom of the disease is tedious and copious hæmorrhage. Bimanual and sound examination generally revealed slight enlargement of the uterus. After dilatation of the neck with laminaria, the mucous membrane of the body and fundus felt very loose and swollen, like a soft cushion. The author has reintroduced the use of the *curette* for the treatment of this condition. Its employment offers the double advantage, firstly, of giving visual demonstration of the pathological condition; and, secondly, of removing the source of the hæmorrhage with certainty and without danger. In some cases the author has introduced the *curette* into the uterus about twenty times without doing harm. To guard against recurrences, it is usually necessary to cauterize after the mucous membrane has been scraped off.—*Med.-Chir. Centralblatt*, 6, 1876. E. F.

Treatment of Purpura Hæmorrhagica with Hypodermic Injections of Ergotine.—Dr. A. Cianciosi obtained very satisfactory results by employing hypodermic injections of ergotine in a case of purpura hæmorrhagica occurring in a child aged six years, of good constitution and previous good health, who was suddenly taken with intense headache and fever at night. One hour afterward abundant hæmorrhage took place from the nose and mouth, which recurred four or five times during the night, each time lasting from ten to twelve minutes. The hæmorrhage continued on the following morning, and then spots, varying in size from a pin's-head to a pea, were found on the mucous membrane of the mouth, on the trunk, chest, back, abdomen, and limbs, which were not elevated and did not disappear on pressure; on the left shoulder they formed ecchymotic patches. The heart's action became very feeble, and the patient rapidly lost strength. Gallic acid in large doses was given, and the hæmorrhage ceased for five or six hours, but then reappeared with greater violence. The author then decided to employ ergotine hypodermically, and made the first injection in the deltoid region; the second in the shoulder; at the third injection the hæmorrhage was checked and did not recur. One hour and a half intervened between each injection (dose not stated). The patient soon rallied and recovered his previous health very rapidly. The contraction of the small vessels under the influence of ergotine explains the arrest of the hæmorrhage. Henoch, however, has recommended the employment of ergot in large doses, in morbus maculosus Werlhofii, as he attributes the fragility of the capillaries to a paralysis of the vaso-motor nerves.—*L'Indipendente*, March, 1875; *Gaz. Médicale*, 19, 1875. E. F.

Treatment of Hysteria with Chloride of Gold and Sodium.—Dr. Martini lauds the efficacy of this remedy in hysteria symptomatic of functional derangements of the uterus and its appendages. It is indicated in congestions and engorgements, either of the neck or body of the uterus, and is prescribed in doses of from twelve milligrammes to six centigrammes. In five cases of congenital atrophy of the neck, causing sterility, the use of the remedy resulted in increasing its volume and consistency, and in three of the five cases conception followed. According to Dr. Martini, the chloride of gold and sodium exerts an elective action of the nutrition of the uterus, and can be employed with advantage against abortion and premature delivery when these accidents are dependent on a condition of debility and atony of the uterus. This remedy should not be given either in powder or solution, but in pills, on account of its taste. The author gives it with extract of dulcamara, in the proportion of one gramme of extract to one centigramme of salt.—*Pabellon Medico; Gaz. Med.*, 11, 1875. E. F.

HYGIENE.

Poisonous Red Carpets.—German industry has supplied commerce with carpets of a fiery red color, which owe their beautiful shades to a coloring-matter which is known under the name of Vienna lake, rose lake, etc. These carpets are very poisonous, since chemical analysis has demonstrated the presence of arsenious acid; once in the proportion of 1.96 per cent., another time of 2.49 per cent.—*Il Medico di Casa*, February, 1876, and *Gaz. Med. Ital. Venete.* G. R. C.

Miscellany.

American Medical Association.—The twenty-seventh annual meeting was held in Philadelphia, June 6th, 7th, 8th, and 9th. After a brief address of welcome by Dr. William Pepper, chairman of the committee of arrangements, and the introduction of a number of distinguished foreign gentlemen, the President, Dr. J. Marion Sims, proceeded to read his inaugural address. He alluded gracefully to the important position occupied by Philadelphia in the history of the Association, and of medical progress. He approved the reform in medical education inaugurated by Harvard, but thought that the best results would be attained only by making the salaries of professors independent of students' fees. In reference to the code of ethics, he questioned the wisdom of depriving medical inventors of the privileges of the patent law. He considered the establishment of a National Health Bureau desirable, and commended the subject to the attention of the members. He spoke in disapproval of the system of legalizing prostitution, and thought all matters pertaining to the spread of syphilis should be under the control of the health boards. He was in favor of the admission of women as delegates to the Association.

After the appointment of the committee on nominations, the Judicial Council reported that the delegates from the Arkansas State Medical Society were entitled to recognition.

Dr. R. C. Kedzie, of Lansing, Mich., read a paper on Water Supply and Drainage, and offered resolutions on the subject. An able report on the progress of surgery during the last century was read by Dr. A. Garcelon, of Maine.

Dr. Edward Seguin, of New York, made a report on uniformity of medical observation, and the disadvantage of changing the place of meeting of the Association every year.

Drs. Seguin and Bowditch were appointed additional delegates to the International Medical Congress.

The report of the Treasurer showed that there was an unexpended balance of $4,577.07 in his hand to date.

The report of the Committee of Publication stated that, of the volume of the *Transactions* for 1875, nine hundred and fifty copies were printed, at an aggregate expense of $2,000.

The report of the Librarian stated that during the past year there had been added to the library 124 volumes, making a total of 1,514 volumes.

Dr. S. C. Busey read the address on obstetrics, which was referred to the Committee of Publication.

On reading the roll, when the name of Sarah Hackett Stevens, representing the Illinois State Society, was reached, Dr. Brodie moved that that name and all such names be referred to the Judicial Council. The motion was laid on the table by a large majority.

A resolution, providing that it was not derogatory in any physician to take out a patent for a surgical instrument of any kind, was referred to the Judicial Council.

Dr. KELLER, of Kentucky, on behalf of the trustees of the fund for a monument to the late Dr. McDowell, of Kentucky, reported a recommendation for an increase of one dollar each year in membership dues, the amount thus raised to go to said fund.

Dr. TONER stated that the resolution so recommending would have to lay over one year, under the rules. He hoped, however, that the rules would be waived for this purpose by unanimous consent.

Objection was raised, and a motion to lay the resolution on the table was agreed to.

Dr. TONER moved that $1,000 be appropriated out of the funds of the Association for the McDowell fund.

Dr. HOWARD moved the point of order that it was a rule of the Association that no new business should be transacted except on the first and fourth days of the session of the Association, and hoped the rules would not be departed from. The Chair decided the order well taken, and the motion of Dr. Toner was declared out of order.

Dr. TONER then offered the following, which was unanimously adopted:

Resolved, That members of the medical profession who in any way aid or abet the graduation of medical students in irregular or exclusive systems of medicine, are deemed thereby to violate the spirit of the ethics of the American Medical Association.

Dr. W. B. Atkinson, the Secretary, presented a report which stated that, in obedience to the resolution adopted at the session of 1875, he reports that in reply to inquiries he is informed that Boards of Health exist in Alabama, California, Georgia, Massachusetts, Michigan, Minnesota, Virginia, and Wisconsin. He had written to the Governors of Delaware, Indiana, Iowa, Nebraska, New Jersey, New York, South Carolina, Texas, and Vermont, with almost negative results.

Dr. H. C. Wood, of Philadelphia, offered the following, which was adopted:

Resolved, That a committee of three be appointed by the Chair, to obtain from Congress an appropriation for the publication of the subject catalogue of the National Library, and that the State Societies are requested to take such action a may be deemed fit to further said object.

The Committee on Nominations next presented the following report, which was adopted:

President, Dr. Henry J. Bowditch, of Massachusetts; Vice-Presidents, Dr. N. J. Pittman, of North Carolina; Dr. Franklin Staples, of Minnesota; Dr. Joseph R. Smith, of U. S. Army; Dr. Samuel C. Busey, of Washington, D. C.; Treasurer, Dr. Casper Wistar, of Pennsylvania; Librarian, Dr. William Lee, of District of Columbia; Committee on Library, Dr. Johnson Eliot, of District of Columbia; Assistant Secretary, Dr. J. H. Hollister, of Illinois; Committee of Arrangements, Drs. N. S. Davis, J. W. Freer, H. A. Johnson, T. D. Fitch, H. W. Jones, Joseph P. Ross, Leslie Curtis; Committee of Publication, Dr. W. B. Atkinson, chairman; Dr. T. M. Drysdale, Albert Fricke, Samuel D. Gross, Casper Wistar, Richard J. Dunglison, all of Pennsylvania, and Dr. Williams, of District of Columbia.

Next place of meeting, Chicago, Ill. Time, first Tuesday in June, 1877.

Judicial Council, Drs. N. S. Davis, of Illinois; E. L. Howard, of Maryland; W. O. Baldwin, of Alabama; H. W. Dean, of New York; A. N. Talley, of South Carolina; J. P. Logan, of Georgia; and D. W. Stormont, of Kansas, in place of the seven whose terms expire at this meeting. The rest of the present Council continue. Committee on Prize Essays, Dr. N. S. Davis, Illinois, chairman ; Edmund Andrews, E. Ingalls, Moses Gunn, E. P. Cook, all of Illinois. Special Committee on Influence of Climate in Pulmonary Diseases in Florida, Dr. E. T. Sabal continued.

Delegates to the International Medical Congress to be held September 4, 1876, at Philadelphia: Drs. H. I. Bowditch, Mass. ; E. Seguin, N. Y. ; Thomas L. Madden, Iowa ; J. S. Welford, Va. ; A. Dunlap, O. ; John T. Hedgen, Mo. ; Joseph Carson, Pa. ; John C. Dalton, N. Y. ; W. O. Baldwin, Ala. ; D. W. Yandell, Ky. ; N. S. Davis, Ills. ; Austin Flint, Sr., N. Y. ; T. G. Richardson, La. ; W. F. Westmoreland, Ga. ; A. M. Pollock, Pa. ; Frank Hastings Hamilton, N. Y. ; G. M. Bemiss, La. ; L. A. Dugas, Ga. ; Francis Bacon, Conn. ; Hunter Maguire, Va. ; A. G. Shortleff, Cal. ; E. M. Moore, N. Y. ; O. W. Holmes, Mass. ; G. A. Otis, U. S. Army ; F. E. Gunnel, U. S. Navy ; E. G. Harwood, N. Y.

Dr. Bell, of Iowa, offered he following, which was adopted :

Resolved, That there be appointed a committee of three persons, members of this Association, in each of those States where there has been no action taken for the establishment of Boards of Health, to urge upon those States the necessity of the establishment of such Boards.

The newly-elected President was then conducted to the chair, and Dr. Sims retired after a brief farewell address.

Dr. E. R. Squibb, of Brooklyn, N. Y., remarked upon the practicability of revising the Pharmacopœia, after which he offered the following, which were adopted :

Whereas, The usual time for a decennial revision of the United States Pharmacopœia is drawing near ; and

Whereas, The plan of revision and publication in force since 1820 may not now be the best that could be devised ; therefore, be it

Resolved, That the American Medical Association take the whole subject of the National Pharmacopœia into consideration for a revision of its management, and for the present time with special reference to the following questions :

1. Whether the present plan of decennial revision and publication be practically sufficient for the needs of the Materia Medica and Pharmacy of the present time, and, if not sufficient, whether a plan could be devised which might offer probable advantages enough to justify an attempt to disturb the present one?

2. Whether this Association be the proper custodian in this country of the interests involved in the National Pharmacopœia; and if it is the proper source of the National Codex, whom it can invite to coöperate with it in the work?

3. If it be a work of this Association, in what way can its details be wisely undertaken with any prospect of material improvement upon the present plan?

Resolved, That in order to facilitate mature and general deliberations upon so important a subject, the final discussion of these resolutions be laid over at least one year; and that the matter be recommended to the President of the Association for consideration in his annual address for the meeting of 1877.

Medical Society of New Jersey.—The one hundred and tenth annual meeting was held at Cape May, May 23d and 24th. There was a full attendance of delegates, and a number of distinguished guests were present. A number of valuable papers were read and discussed, and all necessary business was disposed of.

The following were elected as the officers of the Society for the ensuing year: President, John V. Schenck; Vice-Presidents, H. R. Baldwin, John S. Cook, and A. W. Rodgers; Corresponding Secretary, William Elmer, Jr.; Recording Secretary, William Pierson, Jr.; Treasurer, W. W. L. Phillips; Standing Committee, S. Wickes, S. Lilly, and J. L. Bodine.

Delegates to American Medical Association for 1877: H. A. Hopper, S. C. Thornton, H. G. Taylor, T. J. Smith, W. Love, P. S. Heritage, J. W. Hunt, Samuel Lilly, E. P. Cooper, S. B. Brown, J. R. Leal, H. R. Baldwin, William Armitage, John Vought, Joseph Hedges, T. H. Tomlinson, and P. F. Brakely.

New Hampshire: C. O. Gordon. Connecticut: E. J. Marsh. New York: E. B. Silvers, H. Mitchell, Joseph Parish, E. Maston. Pennsylvania: C. H. Voorhees, H. C. Clark, William Elmer, Sr., and W. Blundell. Rhode Island: C. F. Deshler, T. J. Thomason, and S. Lilly. Massachusetts: J. J. Pendergast, J. L. Bodine, J. B. James, and J. G. Ryerson. Maine: G. H. Balleray, B. F. Carpenter, C. O. Gordon.

International Medical Congress: J. M. Ridge, John Woolverton, Ezra M. Hunt, John C. Johnson, Charles Hasbrouck, Abram Coles, and A. A. Lutkins.

The next meeting of the Society will be held at Trenton.

Appointments, Honors, etc.—Dr. H. C. Wood has been appointed to the chair of Materia Medica and Therapeutics in the University of Pennsylvania, in place of Prof. Carson, resigned. Dr. Henry I. Bowditch has been elected President of the American Medical Association.

Sir William Fergusson is seriously ill. The King of the Belgians has conferred on Sir Henry Thompson the title of "Commander of the Order of Leopold." Dr. Charles Fitzgerald, of Dublin, has been appointed Surgeon-Oculist to the Queen in Ireland. The annual meeting of the British Medical Association will be held next month in Sheffield, and Dr. De Bartolomé will fill the place left vacant by the death of the late President, Sir J. Cordy Burrows. It is announced that the following gentlemen will attend the Medical Congress to be held in Philadelphia in September: Dr. Brown-Séquard, of Paris, Dr. Robert Barnes, of London, Mr. Henry Wilson, Dr. John Barker, and Mr. William Stokes, of Dublin, Drs. Morell Mackenzie, C. B. Radcliffe, and Mr. William Adams, of London. Dr. Brown-Séquard is about to deliver a course of lectures in England, on the Physiological Pathology of the Brain. Prof. Henke, of Tübingen, has accepted the Professorship of Anatomy in the University of Prague, and Prof. Toldt, of Vienna, that of Descriptive Anatomy. Mr. John Simon has received from Queen Victoria the Order of Companion of the Bath. Prof. Lister has been elected honorary member of the Medical Societies of Munich and Berlin.

The Medical Society of the State of Pennsylvania.—The twenty-seventh annual meeting of this association was held in Philadelphia May 31st and June 1st, Dr. Crawford Irwin, of Altoona, presiding. After the transaction of business the Committee on Nominations reported the following officers for the ensuing year: President, Dr. R. B. Mowry; Vice-Presidents, Drs. G. W. Reily, Amos Seip, Thomas Lyon, and D. P. Miller; Corresponding Secretary, Dr. Thomas Drysdale; Permanent Secretary, Dr. W. B. Atkinson; Recording Secretary, Dr. H. L. Orth; Treasurer, Dr. Benjamin Lee. Dr. Irwin resigned the chair to the new President, who in a brief speech thanked his fellow-laborers for the honor they had done him. The Society adjourned, to meet on the 2d of June, 1877, in Harrisburg.

New Medical Journals in Ohio.—Two new medical journals appeared simultaneously in Columbus, June 1st; the *Ohio Medical and Surgical Journal*, edited by Prof. J. H. Pooley, and the *Ohio Medical Recorder*, edited by Drs. J. W. Hamilton and J. F. Baldwin. Both are to be published monthly. Dr. Pooley's first issue contains ninety-six pages of reading matter, including several excellent original papers, interesting clinical records, reviews, etc. The *Recorder* has forty-eight pages, but uses a smaller type. The first number promises well; but we have not yet had leisure for a critical examination of either journal. They are evidently rivals.

A Substitute for Esmarch's Bandage.—Mr. H. L. Browne, Surgeon to the West Bromwich Hospital, England, has devised a series of thick elastic rubber rings, to be used for bloodless operations, in place of the ordinary rubber bandage. The rings are simply rolled up the limb, pressing the blood before them, and then secured in place over a wedge placed on the artery it is desired to compress.

Journalistic Notes.—Dr. F. W. Draper has resigned his position as assistant editor of the *Boston Medical and Surgical Journal*, and Dr. A. S. Mason has been appointed in his place. Dr. Wm. B. Hazard succeeds Dr. W. A. Hardaway as editor of the *St. Louis Medical Record.* Dr. Aveling has withdrawn from the editorship of the *Obstetrical Journal*, and Dr. Galabin has taken his place.

Connecticut State Medical Society.—At the annual meeting of this society, held in New Haven May 24th and 25th, Dr. A. W. Barrows, of Hartford, was elected President; Dr. R. Hubbard, of Bridgeport, Vice-President; Dr. F. D. Edgerton, of Middletown, Treasurer; Dr. C. W. Chamberlain, of Hartford, Secretary.

A Veterinary University.—The Royal College of Veterinary Surgeons has made application to the Government for a supplementary charter, giving the title of "Royal Veterinary University," with power to grant degrees. The plan is objected to by the medical press.

The Canadian Medical Association.—The annual meeting of this association will be held in Toronto, August 2d. Arrangements have been made for a successful meeting, and a large attendance is expected.

Homœopathy in the University of Michigan.—At the tenth annual meeting of the Michigan State Medical Society, the following resolutions were offered by the committee of nine appointed to examine and report upon the subject of homœopathy in connection with the Ann Arbor school:

Resolved, That we are not content with the existing situation of the medical department of the university, because, in our opinion, it is not calculated to maintain or advance medicine as a science, nor is it consistent with the honor or interests of the profession.

Resolved, That a State, under our form of government, cannot successfully teach either medicine or theology, and that the medical profession ought to be its own teacher and the guardian of its own honor.

Resolved, That we regret all legislative interference with the government of the university as unconstitutional, wrong in its principle, and harmful in its results.

Resolved, That section 4 of the constitution of this State society be amended so as to read as follows, namely: "The resident members shall be elected by vote of a majority present at any regular meeting, their eligibility having been previously reported upon by the Committee on Admission; *provided*, that no person shall be admitted to fellowship who practices, or who professes to practice, in accordance with any so-called 'pathy' or sectarian school of medicine, or who has recently graduated from a medical school whose professors teach, or assist in teaching, those who propose to graduate in or practice irregular medicine."

This report was signed by seven out of the nine members of the committee. The minority report agreed with the majority report on all points except the fourth resolution.

These resolutions were considered and acted upon separately. The first three were carried by a vote of sixty-three to thirty-one. The fourth, being virtually an amendment to the constitution and by-laws of the society, was laid over for one year. A resolution was passed requesting all local societies to make known their opinion on the proposed amendment.

Resolutions of Condolence.—The following action was taken by the Dutchess County Medical Society, of which Dr. Strobridge Smith was a member, at a stated meeting held on the 14th day of June, 1876, at Fishkill Village:

Resolved, That, in the death of Dr. Strobridge Smith, the Dutchess County Medical Society loses an efficient member, and the profession at large a physician and surgeon of extensive professional and literary culture and sound judgment.

Resolved, That we deeply sympathize with the relatives and friends of the deceased.

Resolved, That the Corresponding Secretary transmit a copy of these resolutions to the family of the deceased, the *New York Medical Journal*, the *Wappingers Chronicle*, and the *Fishkill Journal*.

A New Cautery.—A new cautery seems to attract much attention in Paris. It is the invention of Dr. Paquelin. The accounts of it which have appeared do not give the details of its construction, but it appears to resemble in some particulars the gas cautery employed some years ago in London by the late Mr. A. Bruce. The principle of its construction is, that platinum, or a similar metal, heated to a certain point, becomes instantly incandescent in contact with a gaseous mixture of air and certain hydrocarbon vapors; and that this incandescence is maintained as long as the platinum and the gas are in contact. With two hundred grammes of liquid five hours' work can be done. Any temperature can be maintained steadily, from a dull-red to a brilliant-white heat, and can be instantly varied. Organic liquids, even cold water, do not, it is said, interfere with its activity.—*Lancet.*

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department of the United States Army, from May 14 *to June* 13, 1876.

HUBBARD, V. B., Assistant Surgeon.—Assigned to duty at Alcatraz Island, Cal. S. O. 45, Department of California, May 4, 1876. To accompany battalions of Fourth Artillery to and from Sitka, Alaska, and on completion of this duty rejoin his proper station. S. O. 66, Division of the Pacific, May 23, 1876.

Surgeon J. R. SMITH and Assistant Surgeons J. J. WOODWARD and J. S. BILLINGS were detailed to represent the Army Medical Department at the annual meeting of the American Medical Association on June 5th. S. O. 103, A. G. O., May 26, 1876.

WILLIAMS, J. W., Assistant Surgeon.—In addition to his duties as Chief Medical Officer, to take charge of the battery, and of Captain Baker's Company, Sixth Infantry. S. F. O. 5, Headquarters Department of Dakota (in the Field), May 14, 1876.

HARTSUFF, A., Assistant Surgeon.—To proceed with companies at Fort Laramie to Fort Fetterman, Wy. T., and accompany expedition against hostile Sioux. S. O. 68, Department of the Platte, June 2, 1876.

PATZKI, J. H., Assistant Surgeon.—To proceed with troops from Fort Fred. Steele to Fort Fetterman, and accompany expedition against hostile Sioux. S. O. 68, C. S., Department of the Platte.

BYRNE, C. B., Assistant Surgeon.—When relieved by Assistant Surgeon Meacham, to report immediately in person at these headquarters for assignment to duty. S. O. 90, C. S., Department of Texas.

Caldwell, D. G., Assistant Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 90, Department of Texas, May 19, 1876.

Taylor, M. K., Assistant Surgeon.—In addition to his duties as Post Surgeon to perform those of Attending Surgeon at these headquarters. S. O. 93, Department of Texas, May 24, 1876.

McCormick, Charles, Surgeon.—To report in person to the Surgeon General of the Army. S. O. 99, A. G. O., May 19, 1876.

Baily, J. C., Assistant Surgeon.—Assigned to duty as Post Surgeon at Newport Barracks, Ky. S. O. 73, Department of the South, May 29, 1876.

Bache, D., Surgeon.—To report to the commanding general Department of California for assignment. S. O. 112, A. G. O., June 7, 1876.

Goddard, Charles E., Surgeon.—Assigned to duty as Post Surgeon at Fort McKavett, Tex. S. O. 85, Department of Texas, May 12, 1876.

Tilton, H. R., Assistant Surgeon.—Ordered before Army Medical Board for examination for promotion, and on its completion to rejoin his station. S. O. 112, C. S., A. G. O.

Brewer, J. W., Assistant Surgeon.—Assigned to temporary duty as Post Surgeon at Fort Sanders, Wy. T. S. O. 63, Department of the Platte, May 26, 1876.

Whitehead, W. E., Assistant Surgeon.—To report to the commanding general Department of the Missouri for assignment to duty. S. O. 112, C. S., A. G. O.

Kinsman, J. H., Assistant Surgeon.—Granted leave of absence for one month. S. O. 70, Department of Dakota, May 24, 1876.

White, R. H., Assistant Surgeon.—Assigned to duty as Post Surgeon at Ringgold Barracks, Tex. S. O. 93, C. S., Department of Texas.

Fitzgerald, J. A., Assistant Surgeon.—Assigned to duty as Post Surgeon at Fort Lapwai, Idaho T. S. O. 54, Department of the Columbia, May 8, 1876.

Styer, Charles, Assistant Surgeon.—Assigned to duty at Fort Porter, N. Y. S. O. 100, Division of the Atlantic, May 31, 1876.

King, J. H. T., Assistant Surgeon.—To report to the commanding general Department of Texas for assignment to duty. S. O. 112, C. S., A. G. O.

Corson, J. K., Assistant Surgeon.—Assigned to duty at Plattsburg Barracks, N. Y. S. O. 100, C. S., Military Division of the Atlantic.

Elbrey, F. W., Assistant Surgeon.—Assigned to duty as Post Surgeon at McPherson Barracks, Atlanta, Ga. S. O. 73, C. S., Department of the South.

Jackson, D., Assistant Surgeon.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 103, A. G. O., May 26, 1876.

Finley, J. A., Assistant Surgeon.—Leave of absence extended one month. S. O. 51, Military Division of the Missouri, May 31, 1876.

Reed, W., Assistant Surgeon.—Assigned to duty at Camp McDowell, Arizona T. S. O. 59, Department of Arizona, May 9, 1876.

Comegys, E. T., Assistant Surgeon.—Assigned to duty as Post Surgeon at Fort Duncan, Tex. S. O. 86, Department of Texas, May 13, 1876.

Brooke, John, Assistant Surgeon.—Assigned to duty at Columbia, S. C. S. O. 73, C. S., Department of the South.

Woodruff, E., Assistant Surgeon.—Granted leave of absence for one month. S. O. 102, C. S., Division of the Atlantic.

Ewen, C., Assistant Surgeon. Assigned to duty at Fort Hamilton, N. Y. H. S. O. 100, C. S., Division of the Atlantic.

Spencer, W. G., Assistant Surgeon.—Assigned to duty at Raleigh, N. C. S. O. 73, C. S., Department of the South.

Obituary.

Dr. Ludovic Hirschfeld, Professor of Anatomy in the University at Warsaw, author of the well-known Atlas and Plates of the Nervous System, died of dropsy, May 10th.

Dr. John O. Stone, a distinguished practitioner of this city, died suddenly June 6th, in the sixty-fifth year of his age. He was graduated in 1836 from the Medical School of Harvard College; visited Europe, and on his return was appointed a surgeon to Bellevue Hospital. In 1866 Governor Fenton appointed him a member of the Metropolitan Health Board of this city, his colleagues being Drs. Swinburne, Willard Parker, James Stone, and Mr. Jackson S. Schultz, who was President of the Board which had supervision of the Metropolitan District, comprising New York, Kings, Westchester, and Richmond counties, and part of Queens county. He retained his office until the Board was abolished in April, 1870. He was an exceedingly active and prominent worker in his position, and aided greatly in the introduction and carrying out of valuable sanitary measures, especially those relating to the ventilation and cleanliness of tenement-houses.—*Medical Record.*

John Van Pelt Quackenbush, of Albany, died suddenly June 8, 1876, at the age of fifty-seven years. He had been suffering for some time with symptoms of Bright's disease and aneurism. He was born in Albany, June 3, 1819, and was a descendant of one of the oldest Dutch settlers of that city. After receiving his baccalaureate degree from Williams College, he entered the Albany Medical College, graduating from that institution in 1842. Two years later he united himself with the Albany County Medical Society, of which, up to the time of his death, he was an honored and efficient member. He filled the Chair of Obstetrics in the Albany Medical College for a number of years, and was highly esteemed by the students and his colleagues. In 1852 he was chosen President of the County Medical Society, a position which he filled with much ability and zeal. In 1868 he was elected President of the State Medical Society. Another important public position held by him was that of Surgeon-General of the State under Governor Seymour during the war of the rebellion.

Mrs. Isabella J. Coleman, wife of Dr. William C. Coleman, of Latrobe, Pa., died June 6th, aged thirty-three years.

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Original Communications.

ART. I.—*On the Use and Value of Arsenic in the Treatment of Diseases of the Skin.* By L. DUNCAN BULKLEY, A. M., M. D., Physician to the Skin Department of Demilt Dispensary, New York, etc.

THERE is probably no empirical remedy in medicine better known or more frequently prescribed than is arsenic in the treatment of diseases of the skin, and yet I venture to say that there is no remedy whose action is so little understood, and withal whose effect is more uncertain, than is that of the same drug, as generally used; for, when we consider diseases of the skin as a class, without any special reference to the individual case or the diagnosis, arsenic is not only useless in a very large share of the cases, but is very frequently absolutely harmful.

The subject has presented itself thus to my mind, because in my practice it has been very uncommon for me to meet with a patient, even with eruptions which have proved to be parasitic or syphilitic, who has been previously treated by general practitioners, who has not taken arsenic, and it is very commonly the failure of this supposed specific which has led the physician to seek the consultation.

Before speaking of the true value of arsenic in the treatment of any disease of the skin, I must, therefore, insist upon the absolute necessity of accuracy in diagnosis as the very first step toward success in treatment; for affections of this great organ, the skin, are not a unit, as the practice of so many would seem to indicate, but they are more diversified than those of any other portions of the body, and require treatment as different as the pathological states and etiological factors are various. To prescribe arsenic, therefore, because the skin is affected, is as unwarranted as it is to seize upon any other empirical remedy, and to administer it in each and every disease to which any other special organ is subject.

I must be pardoned for dwelling thus upon what is a truism to many, for all will acknowledge that to a great majority of practitioners the exhibition of an eruption immediately suggests to the mind the idea of arsenic. It will be understood, therefore, that in my general remarks on the efficacy of arsenic in diseases of the skin, I refer not to the whole as a class, but to the special affections in which experience has shown it to be of service.

Popular opinion is never without some measure of support in truth, and the general medical impression of the value of arsenic, as an agent to modify changes in the skin, has foundations which it is not difficult to discern. It will be our task to examine these, to see how they have stood the test of time and experience, and to endeavor therefrom to furnish as definite and accurate indications as possible for our future guidance in the use of this drug.

Although now so generally known in connection with the treatment of diseases of the skin, the use of arsenic in this class of affections is not a gift of the ancients, indeed it dates back less than one hundred years, and those to whom its general introduction was principally due have passed away only within the memory of many now living, as Hunt, Emery, Biett, and others. An essay on the action of arsenic would not be complete without the mention of the name of Girdlestone, who was almost the first to suggest its use in diseases of the skin;[1] nor should the impetus given by Begbie's paper on the physiological effects of arsenic[2] be overlooked.

[1] *London Medical and Physical Journal*, March, 1806.

[2] *Edinburgh Medical Journal*, vol. iii., 1859, p. 961.

The very general use into which arsenic has come is attributable, I think, to three causes: first, to the very general desire which naturally exists in the minds of all to find some remedy which is a specific for a certain disease or class of diseases, the history of medicine being made up of successive attempts at finding specific remedies; second, to the physiological effects of the drug as observed in the coats of animals to whom it has been given, which, as is known, become sleek and glossy, and also in the clear skin of the arsenic-eaters of Styria, where the practice of consuming this drug as a condiment and stimulant has been verified by recent observation;[1] the third cause is, the very favorable reports which have been made from time to time as to the effects of arsenic in *certain* diseases of the skin, and inferentially it has come to be prescribed in almost all affections of this organ, partly from carelessness in diagnosis and partly in the vain hope that in some way or other, mysteriously unknown, it would modify the eruption.

That arsenic has a very decided effect upon the epithelial elements of the body there can be no question, both from physiological and therapeutical evidences; the silvery tongue after its long continuance, which results from the abundant growth of the epithelium obscuring the normal coloration, and its effects on the hairs of animals are instances of this, as also its therapeutic effects in scaly diseases of the skin. But it is also claimed and demonstrated pretty conclusively that arsenic influences greatly the circulatory system, as is shown by the increased feeling of warmth in patients taking it, and it is said to give increased strength and augmented frequency to the pulse; it is also well known that the first indication of the full physiological action of the drug is the congestion of the conjunctiva, and fullness about the face and eyes.

There is every reason, however, to believe that arsenic acts primarily through the nervous system, and that the changes induced in the skin and vascular system are secondary to this—an opinion which is shared by many, and which finds support in its very serviceable action in certain nervous diseases, chorea, neuralgia, asthma, etc., and also in its effect in malarial disease. Those who have studied its action in diseases of the skin also agree that its results are obtained by virtue of its neurotonic principles. Dr. Albutt[1] says, "Arsenic in my hands has been certainly and regularly efficacious in those skin-diseases which on other grounds I referred, or was disposed to refer, to the class of cutaneous neuroses, while in other skin-affections it has been inert or injurious." Although I cannot subscribe wholly to this, I believe most firmly that the results from arsenic are obtained by virtue of its action on the nervous system, and I have elsewhere shown the very great dependence of many, if not all, skin-diseases upon structural or functional derangement of the nervous portion of our organism;[2] but I also believe in the value of arsenic as a general modifier of cutaneous nutrition, and, as will appear later, I regard it of the utmost service in many of the diseases of the integument, even where no nervous elements can be found.

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[1] Waring's "Practical Therapeutics," third American edition, Philadelphia, 1874, p. 107.

It will be understood, of course, that arsenic acts through the medium of the blood; it is absorbed, enters the circulation, can be detected in the urine, and also is found in the viscera after death by poisoning from it.

With this much of introduction, let us proceed to consider what real value experience has shown arsenic to have in diseases of the skin. About this we will find not a little conflict of opinion: some, as the late Mr. Thomas Hunt, of London, a man of large experience with diseases of the skin, believe it to be all efficient, to be indeed almost the sole remedy in a large share of these affections, while others ignore it almost entirely or yield it only a very small place in the remedies they recommend to meet this class of diseases. The truth evidently lies between the two extremes, and, as it is seldom safe to accept any dictum in medicine, let us study the remedy before us cautiously and with a judgment based on what is known of its physiological action, and of the nature of the affections to be treated.

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[1] *The Practitioner*, November, 1874, p. 322.

[2] "The Relations of the Nervous System to Diseases of the Skin." G. P. Putnam's Sons, 1875. Also *Chicago Journal of Nervous and Mental Diseases*, October, 1875.

A single point needs first to be considered, and that is, the element of time. Arsenic in medicinal doses is slow in its action, and is therefore suited for chronic diseases, and results are not to be expected from it at once; but, if any good is to be done, it is by a continuance of its effect for a not inconsiderable period of time. It is, therefore, of little service in the really acute diseases of the skin; and, as a corollary to this, I may state that it is directly contraindicated in inflammatory states, and must not be administered when these supervene in chronic cases.

But, while acknowledging that the results expected from arsenic are tardy, I regard it a mistake to think they must be waited for to the exclusion of other remedies, nor do I believe that success will always be obtained by waiting for arsenic, as the writings of Mr. Hunt would almost lead the practitioner little acquainted with the management of cutaneous disease to think. Nor is it right to imagine that the disease is incurable because arsenic fails, as the practice of so many seems to indicate, whatever their theory may be.

We will consider first the disease *psoriasis*, the one for which arsenic is most commonly prescribed and for which it was originally first given, if I mistake not, and inquire how far experience warrants us in trusting to it, and what it can and what it cannot accomplish; we will afterward mention the other diseases in which it is applicable as well, and also those in which little or no beneficial effect can be obtained from the drug.

The older accounts of the success in the treatment of psoriasis with arsenic appear very much exaggerated, and lead one who is familiar with the disease to doubt the truth or the judgment of the reporters. I need hardly remind this audience that by psoriasis I understand the disease commonly known by that name here and in Germany and France, where masses of laminated or micaceous scales, always dry, are seated upon a reddened base, slightly elevated, for the most part circular, and the eruption occupies, as a rule, the extensor surfaces of the body. This is the eruption sometimes called lepra by old writers and alphos by Mr. Wilson, who applies the term psoriasis to the scaly stage of eczema. Lepra or psoriasis, then, is the disease of the skin in the treatment of which I find the first mention of the administration of arsenic, and it is in psoriasis that arsenic has been prescribed most largely and confidently ever since, for at least fifty years and more, and this is almost the only disease of the skin in which Hebra allows that arsenic has any effect.

But psoriasis is the disease above all others in which it is most difficult to determine the true action of any remedy, because of its natural tendency to change with the season, for all know that the eruption of psoriasis may disappear quite spontaneously, and it is rare that it does not become very much less pronounced in summer; moreover, in certain cases a marked change in diet or habitation, or some very simple remedy, or the accession of acute internal disease, may produce a very visible and decided alteration in the appearance of the patches. The reports, therefore, of great success attending the internal use of arsenic in this disease must be accepted with considerable caution, especially when we take into consideration the fact that the eruption may return after an absence or an apparent cure of one, two, or more years.

But can arsenic ever cure psoriasis? I answer most emphatically that it can, and that in proportion, first, to the age of the patient; second, to the duration of the disease; and, third, to the amount of previous treatment. 1. In very young subjects, I mean ten or twelve years or under, psoriasis is comparatively curable, and, as a rule, need not run on, as I have known of its doing, from the age of five to that of fifty-five years, and arsenic should always be given fearlessly and patiently to children afflicted with psoriasis, and with very good probability of effecting a cure, I mean a *permanent* removal of the disease. 2. Recent attacks of psoriasis for the first time in persons of older years may be treated with arsenic with very encouraging prospect of success, but the remedy should be continued for a long time and very steadily. 3. In those who have had the eruption for many years and have received little or no treatment, I believe arsenic will accomplish the cure of the disease in many instances, although a previous trial of the remedy irregularly, and consequently ineffectually, diminishes very considerably the chances of success.

In those cases, however, where arsenic has been tried repeatedly and perhaps for some length of time, that is, weeks or months, and without permanent result, little can be expected from it, even from a full and faithful course, as will be detailed later. But even here it will be found that, combined or alternated with other remedies, arsenic is still of power; it will be constantly found that the error was not in the drug but in the manner in which it was used; when other elements of disease or derangement are removed, the remedy will be able to assert itself. In the event of its final failure recourse must be had to other remedies, as phosphorus, tar, etc., of which this is not the place to speak, but which give success when arsenic fails.

A word in regard to the length of time for which arsenic must be given in psoriasis. Begbie,[1] in his admirable essay on the physiological and therapeutical effects of arsenic, says: "I have never seen the loathsome scales of lepra or psoriasis drop from the skin and leave healthy cuticle till the eye and tongue manifested that the system was under the influence of the mineral, and that for days or weeks together." And this persistence in the remedy, which is advised by many, I can indorse most heartily, and I charge much of the want of success in the treatment of this disease to the physician, who, not having himself assurance in the diagnosis and without understanding and belief in the proper treatment, fails and must fail to inspire the patient with the confidence necessary for a prolonged arsenical course. To quote again from Begbie:[2] "The curative properties of arsenic may be obtained in some instances before the physiological effects present themselves, but, in order to secure its virtues as an alterative in a large class of chronic diseases which yield to its influence, it will be necessary to push the medicine to the full development of the phenomena which first indicate its peculiar action on the system. Arsenic as a remedy is too often suspended or altogether abandoned at the very moment when its curative powers are coming into play. The earlier manifestation of its physiological action is looked upon as its poisonous operation; the patient declares that the medicine has disagreed with him; forthwith the attendant shares his fears, the prescription is changed, and another case is added to the many in which arsenic is said to have failed after a fair trial of its efficacy."

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[1] *Edinburgh Medical Journal*, vol. iii., p. 965, 1858.

[2] *Loc. cit.*, p. 961.

To obtain the full measure of success with arsenic in psoriasis, it should not only be administered until the eruption entirely disappears, but it should be continued for a period thereafter, varying in proportion to the length of time the disease has previously existed—and this time measured by months, rather than by days or weeks. There will be difficulty in securing this, but of its value and necessity there can be no doubt.

In speaking of the power of arsenic over psoriasis, I would not leave the impression that it is to be used to the exclusion of other remedies, for in my experience I think I have never seen a case cured by arsenic alone, but I am only endeavoring to give due credit to a remedy which some of the modern practitioners in dermatology have much undervalued. This has happened, I opine, chiefly from the impatience which the more rapid and visible (and temporary) results of local treatment, as witnessed in some of the hospitals abroad, beget, which results it is difficult to obtain in the ordinary run of practice here, and a knowledge of which, moreover, the general practitioner, for whom I write this, cannot acquire.

Coming now to the varied and ofttimes perplexing *eczema*, what can we expect from arsenic in its treatment? Two years ago, when addressing this learned association on "The Management of Eczema,"[1] I endeavored to warn against the far too common rut into which practitioners fall in regard to this disease, that of generally prescribing oxide of zinc ointment and Fowler's solution, and there ending their thought of the case; also on other occasions I have striven, in the same general direction, to show the important relations of the nervous system,[1] as also the relations of the state of the urine,[2] to this and other diseases of the skin. I sincerely trust, therefore, that I will not be misunderstood when I speak favorably of the treatment of eczema with arsenic, for, while I prize it most highly in certain cases of this disease, I would by no means prescribe it in every case nor for every condition of the disease, and rarely do I trust to it alone. I do not, therefore, when I laud its action in some cases, wish to leave the impression that arsenic is the sole remedy for eczema, although it must be acknowledged that there is no other one remedy with like effect, hardly excepting cod-liver oil, whose action is marvelous in proper subjects.

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[1] "Transactions of American Medical Association," 1874. Reprinted by G. P. Putnam's Sons, New York.

Arsenic, then, is capable of affecting certain cases of eczema in a most desirable manner, and occasionally is, I believe, essential to a cure, as the following history will show:

T. H., aged five years, came first under my care on May 11, 1875. He had suffered continuously from a severe eczema of the head, face, and other parts for more than four years and a half, in varying severity at times. When first seen, the whole face, eyes, head and neck were covered with a moist papular eczema, bearing evidence of great itching, and his father testified that he tore the parts constantly, his sleep at night being almost entirely prevented. The arms were likewise affected and the little patient wore the troubled, exhausted look common to such sufferers, and the father seemed almost equally discouraged.

He was treated in the usual way for sixteen weeks, taking cod-liver oil for a period, and for the latter six weeks a mixture of iron and bark with three minims of Fowler's solution three times a day. At the end of this time there had been really no gain, and the boy's sufferings were intense, although the treatment had been followed very faithfully. At this date, other internal medication being suspended, a mixture of equal parts of Fowler's solution and cinnamon water was prescribed, and four drops of this were ordered to be taken three times a day, the dose being increased by two drops every other day until twenty were reached. The same local treatment as before was used, with the addition of a wash of bicarbonate of soda, about half an ounce to the pint.

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[1] *Archives of Electrology and Neurology*, November, 1874, and May, 1875. Reprinted by G. P. Putnam's Sons, New York.

[2] *Archives of Dermatology*, October, 1875. Reprinted by G. P. Putnam's Sons, New York.

Sixteen days later it was recorded that there was great relief—he was then taking ten drops of Fowler's solution, or twenty of the mixture, three times daily—a large portion of the eruption had become papular, there were almost no excoriations, the child slept well and looked markedly better in every way. The dose was then increased, augmenting, as before, by two drops of the mixture or one of the arsenic until fifteen drops of Fowler's solution were taken three times a day. This dose being reached it was continued three weeks longer, until December 4th, when it was noted that the eruption had nearly disappeared, the father stating that the child had never before been so free from the eruption since its inception, four years and a half ago. The dose of fifteen drops of Fowler, thrice daily, was continued four weeks longer, it having caused no inconvenience, and the child continuing well, the father testifying that whenever the arsenic was omitted the itching returned. The dose of arsenic was then increased slowly until twenty drops of Fowler's solution were taken three times daily, but when this full quantity was reached some nausea and vomiting occurred and the dose was lowered at once to five drops, with instructions to increase slowly to fifteen drops, thrice a day, an amount previously tolerated perfectly. He continued at this dose, and on March 11th, the time of the last record, he remained entirely well, with no trace of his eczema. There was no change made in the local treatment, and no other remedy used but the arsenic as above described; during the latter part of the time the local treatment was rather neglected.

This interesting and unusual case shows the control over eczema which arsenic may have when exactly suited to it, and I can affirm that the results surprised me; for, though I have always prescribed considerable arsenic, I have not been accustomed to see such results from it, and I speak from the experience of many hundreds, if not thousands of cases in which

I have ordered this drug. After a continuance of the disease, in this case, for more than four and a half years, and a treatment by me faithfully for nearly four months, with almost no results, the disease yielded completely to arsenic alone when the doses were made sufficiently large and its use persisted in. We see here, also, a great and perhaps unusual tolerance of the mineral, a child of five years taking fifteen drops of Fowler's solution, or one-eighth of a grain of arsenious acid three times a day, and for a long time, which is quite at variance with what has been taught as to the advisability and safety of administering arsenic to children. My experience has been, as will be mentioned later, that children bear arsenic extremely well even at a very tender age, and that, as a rule, it accomplishes far more for them than for those in later years. Dr. McCall Anderson[1] reports cases of children where comparatively large doses of Fowler's solution were taken.

In regard to the rules for the applicability of arsenic to the treatment of cases of eczema, it is indicated, first, as most writers agree, in nervous cases; that is, in those where there is a history of neuroses, either in themselves or in their families. This class of sufferers not uncommonly have some form of neuralgia, as gastralgia, etc., and the eruption has a decidedly nervous type, that is, it itches fearfully; sometimes it burns and smarts. But itching in eczema does not always indicate the necessity for arsenic, and this I consider one of the most important points to bear in mind in the management of this disease, namely, that itching is by no means always a primarily nervous affair, but may be due to the circulation of effete products in the blood, which excite the nerve irritation, as is instanced in the itching of jaundice, and in certain forms of disease of the kidneys. It is useless, then, to administer arsenic in such a case; indeed, it does positive harm; because by its action upon the liver it directly increases the difficulty; and one of the recognized rules in giving arsenic, which is very generally forgotten by practitioners, is that its administration is to be suspended when urinary derangements occur; or, at least, that they are to be removed before benefit can be expected from the arsenic.

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[1] "Analysis of 11,000 Cases of Skin Diseases," London, 1872, p. 147.

The second class of cases of eczema benefited by arsenic is that where there exists an arthritic history, past or present, in patient or family: gout, rheumatism, asthma, bronchitis, etc. Begbie was so impressed with this, that he says,[1] "Arsenic is especially an alterative in the rheumatic diathesis; it is, if I may be allowed the expression, an anti-rheumatic." In these patients the skin is red and delicate, the epidermal layer being very thin. The use of arsenic in the skin diseases in this class of patients was probably suggested by its good effects observed in their skin lesions when given for rheumatic symptoms, for the medicine was had in repute for these latter before it became to be used for cutaneous diseases. But in these subjects there is a very frequent need of alkaline purgatives, as the sulphate of magnesia, and their urine should be watched. Among the earlier signs of the physiological action of arsenic, given by some, is a marked increase in the quantity of the urine and a free deposit of urates. While I have frequently observed this to occur in patients taking arsenic, I have never been able to recognize it as an effect of the drug.

A third class of patients with eczema, where arsenic may be ordered with beneficial effect, are those where there is more or less of malarial element. Dr. L. P. Yandell, Jr., of Louisville, has recently expressed the opinion[2] that malaria is a most prolific source of acute disease of the skin; and, although by no means agreeing with him in the full, I am inclined to think that it is an element too often forgotten. We know of urticaria assuming a markedly periodic form, and may not the augmented itching of eczema at certain periods indicate something of a malarial origin. Certain it is that arsenic is often peculiarly beneficial to eczema patients who have been under malarious influence, or the subjects of some of the more commonly recognized forms of disease traceable to this poisoning.

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[1] *Edinburgh Medical Journal*, vol. iii., 1858, p. 981.

[2] *American Practitioner*, May, 1876.

Arsenic is not beneficial, as far as my experience goes, in patients who are markedly strumous; at any rate not until this feature has been previously met with cod-liver oil, iron, etc.; but sometimes after these have done their work the disease remains, and arsenic is necessary to its removal. A striking instance of its very great power under these circumstances has been recently under my observation.

Mamie C., as strumous a child of three years as you often see, has attended quite faithfully at Demilt for fifteen months. She has light hair and eyes, and pale, delicate skin; the eyes have always appeared weak, she having strumous ophthalmia and a purulent discharge from the ears. From her admission to the dispensary, March 5, 1875, to October 30th, she was under varied treatment for an impetiginous eczema, involving the entire head and most of the face, but with hardly any success. She took an arsenical mixture for a time, and for the latter few months took cod-liver oil, to the manifest improvement of her health, but without affecting the eczema much; nor did it improve at all under the smaller doses of arsenic first given. She was then, October 30th, ordered Fowler's solution and cinnamon water, equal parts of each, taking at first four drops three times a day, increasing gradually to twenty, or ten drops of Fowler. This latter amount she bore well, and improved under it rapidly, with no change in the local treatment which had been previously employed; and within three months the eczema of nearly three years' duration was well.

I have administered arsenic in comparatively large quantities to children of very tender years, or rather months, who have had eczema, and must confess that I have sometimes been surprised at the results, so different were they from what the books indicate. I was led to use it alone in these cases, and in the large doses I mention, by a suggestion of my friend, Dr. Stephen Rogers, of New York, a man of large experience and uncommon acuteness, who detailed to me, a while ago, some very striking cases of its use, which I have since equaled repeatedly in my own experience, as the following:

J. D., an apparently healthy boy of eighteen months, had a characteristic moist eczema of the right ear and side of the face, he having had the disease seven months. He was ordered equal parts of Fowler's solution and cinnamon water, and six drops of this was taken thrice daily with the food. If not disagreeing, the dose was to be increased to eight drops, or four of Fowler. Five days later the eruption was much better, having dried up by one-half; there had been *no local treatment whatever.* The medicine had not affected the stomach or bowels, which latter were still somewhat constipated. The dose was increased to ten drops, or five of arsenic, three times a day, and a good recovery was made. Ellen Laury, aged twenty-one months, had had eczema of the head for nine months; she was given the same with like results. Within five days it was recorded that there was not so much itching, and that the eruption was much better. Many such accounts could be given did space permit, though it is impossible to keep accurate records of the larger share of dispensary practice. I have administered arsenic to very many infants of all ages, from three and a half months upward, and have never yet seen any cause to regret it, or any evil consequences result. I speak this advisedly and after much thought; and, although I would not by any means encourage the indiscriminate deluging of every infant who has eczema with large doses of this poisonous mineral, still, in proper cases, as indicated by the preceding three states described as requiring arsenic, and observing the rules and precautions for its administration to be hereafter set forth, I believe that arsenic is not only harmless but highly beneficial, and I should be extremely sorry to be deprived of this means of treating infantile eczema.

Be it remembered, that in all this I do not draw back one whit from the position taken before this Association, two years ago, in my essay on the management of eczema. I am only speaking of proper cases, carefully studied, with a due regard to local and general causes of irritation, and with a diligent supervision of the diet and hygiene, and with such local and general measures as I then indicated, which I cannot here touch upon. It is true that the cases I have detailed were treated by arsenic alone—this I am not yet prepared to advise; they are recorded here only to demonstrate the power of the drug over the disease. I may mention that my friend, Dr. Daniel Lewis, of this city, has also treated infants on the plan detailed, at the suggestion of Dr. Rogers, and successfully; also, that my assistant, Dr. Robert Campbell, has witnessed the progress of many such cases; likewise a number of physicians who have attended my private classes at Demilt Dispensary. Wilson has no hesitation in prescribing arsenic for infants a few weeks old.[1]

But it will not infrequently happen while patients, especially these little ones, are taking arsenic, and the eczema doing well, that a bronchitis will supervene; and I agree with McCall Anderson,[2] that patients are more liable to catch cold while under arsenic. The medicine may then be suspended for a day or two, a good dose of calomel is given, one or two grains, repeated the next day, for an infant, and the cough will disappear, and the arsenic may be returned to. The same should be given if there is constipation; if diarrhœa occurs, diminish the dose or add opium.

Sometimes these interruptions appear more serious, and attention must be paid to them, and, of course, other diseases may occur, and complicate affairs greatly. The attendants are ever ready to attribute these and all troubles to a "driving in of the eruption," etc.; and, if it is known that arsenic is being given, constant fear of dangers from it will arise. Great annoyance may sometimes thus ensue, as in the following case, which was recently committed to my care by a prominent physician in a neighboring city, the family removing to New York temporarily for the sole purpose of having the child treated.

X., a fine-looking male child, eighteen months old, had suffered continuously from eczema of the head, face, and most of the body since six weeks of age. He had been under the most varied treatment, and had tried most of the measures suited to such cases, having been under the care of seven physicians previously. When first seen, the child was in a most distressing state, scratching continually and crying vociferously if prevented. The head and face were covered with moist and papular eczema, some portions scabbed and crusted; the legs were covered about the knees with the marks of scratching, thick yellow crusts, and various parts of the body exhibited subacute eczema in various states.

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[1] "Lectures on Eczema," etc. London, 1870, p. 214.

[2] "A Practical Treatise on Eczema." Third edition, London, 1874, p. 99.

He was ordered about a grain of calomel two or three times a week (the bowels had always been constipated, and the urine high colored and passed frequently), and he was given an ointment containing a little tar and oxide of zinc. I prescribed also equal parts of De Valangin's solution of chloride of arsenic (which will be described later) and cinnamon water, of which he took four drops three times a day, with the meals, increasing it by one drop a day till eight were reached, or four of the arsenical solution. In three days there was great improvement, the relief to the child (and parents) being immense; he scratched hardly at all, and very much of the eruption had already disappeared. But the child had quite a fever and some vomiting, he having eaten something which disordered the stomach; the arsenic was therefore stopped, and a mixture of the acetates of potassa and ammonia and nitre was given. In three days the febrile movement had ceased, and the arsenic mixture was returned to at four drops thrice daily, to be increased slowly to eight. Nine days later it was recorded that there had been still very great improvement, the eight drops (four of arsenic) having been continued three times daily; they were then ordered to be increased to ten. The whole of the eruption was then dry, with slight scaling, and the little fellow made little or no attempt at scratching; this was fifteen days after beginning treatment, he having never been so well previously since the commencement of the disease.

He was then given some wine of iron, and subsequently some quinine, in very small doses, as a tonic, the appetite failing; but both seemed to disagree at once, and produce nausea and great prostration. The arsenic was stopped on the occurrence of these symptoms, but the mother begged a continuance of it, as she realized that it was controlling the disease. Nine days later, or twenty-four days after the first visit, the patient appeared much better; he was then taking again eight drops of the arsenical mixture three times a day. The eruption had virtually disappeared, only redness and some scaling remaining.

At this time he began to cut some large back teeth, and developed a very marked intermittent fever, the street on which the parents had taken up their residence being unhealthy, on low, made ground, with a wooden pavement, and there was also a noticeably foul-smelling water-closet across the hall. Dr. J. P. P. White saw the case in consultation, and assisted me to the explanation of the symptoms, and lanced the gums; in view of the ill effects of quinine, as already shown, and as the mother asserted that this remedy had always acted badly, we were forced to return to arsenic as an antimalarial remedy, which the mother had begged for a few days previously.

To conclude this history: the mother became alarmed, and a *homœopathic* practitioner was called in. His first exclamation, on learning that the child had been treated by me, as I was told by a friend, was: "What a fearful amount of arsenic the child has had"—the child had had none for eight days (it had not been returned to, as directed), since which all these symptoms had developed, starting, as all recognized, the mother included, from the stomach disturbance, always caused in her family, as I then learned, by iron and quinia. I should not mention this case and its termination, were it not in order to show on what groundless reasons the administration of arsenic is sometimes objected to. I have never seen a case where the independence of the unfavorable symptoms of any action of arsenic was so clearly exhibited as here (who ever heard of arsenic causing periodic intermittent fever!), and yet this case may enter the annals of *homœopathic literature*, for aught I know, as a fearful example of the terrible effects of arsenic, on the authority of the eminent practitioner who rescued the patient. But I am thankful to say that this is the only patient where such an untoward termination has been reached (or even threatened) among hundreds of little ones who have received arsenic at my hands to their own and their parents' delight and comfort. I will not further illustrate this portion now, but shall hope on another occasion to be able to collect and present my statistics of the use of arsenic, now scattered over many public and private case-books.

Begbie states[1] that he has seen arsenic act through the mother upon a nursing child, four months old, with a diffuse eczema; the mother was kept under its influence to the extent of affecting the eyes and producing the arsenical tongue. McCall Anderson[2] also says that infants at the breast may be treated by means of arsenic administered to the mother; I have attempted this, but could never assure myself that the desired result was obtained by this or by other measures, as the regimen, etc., which were also directed. Ringer[3] states that arsenic may be detected in the milk; if so, the child can certainly be treated by means of it.

Mr. Jonathan Hutchinson, of London, asserts[4] very positively, that in arsenic we possess a very sure cure of *pemphigus.* I have used this treatment in three cases, with the best results. In the last case, a most severe one of pemphigus gangrenosus, the arsenic was given alone, and its power over the disease was very marked, arresting its progress within twenty-four hours, apparently saving the life of the patient. Although this statement of Hutchinson's is a reproduction of a previous one of his own, made twenty years previously, I find very few cases reported cured by arsenic,[5] and very little mention of this treatment in the text-books. I now prescribe arsenic in this disease with great confidence. Hutchinson says that it does not merely repress the eruption, but remedies the unknown constitutional cause on which that eruption depends, always very much benefiting the health of the patient. It does not, however, prevent the liability to subsequent attacks; but he states that such attacks are always much less severe than the original one, and tend, if treated by the same remedy, to diminish in intensity on each successive occasion. He has recently reported a case of very severe pemphigus, in which arsenic appeared to prevent the patient's death.[1] It is not a little remarkable that Hunt does not appear to have tried arsenic in this disease; almost the only affection of the skin in which he has not reported its effects.

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[1] *Edinburgh Medical Journal*, vol. iii., 1858, p. 964.

[2] "A Practical Treatise on Eczema." 3d edition. London, 1874, p. 100.

[3] "A Hand-Book of Therapeutics," 3d edition. New York, 1872, p. 243.

[4] *Medical Times and Gazette*, October 23, 1875 (*Practitioner*, December, 1875, p. 444).

[5] *Lancet*, February, 1859, p. 158, and *Medical Times and Gazette*, January, 1864, p. 10. (Stillé's "Therapeutics and Materia Medica." Philadelphia, 1864, vol. ii., p. 714.)

Of the value of arsenic in certain forms of *acne*, or, rather, in certain cases, I can speak with considerable positiveness. It certainly does, in proper cases, and under proper conditions, exert a most marked influence upon the complexion of the face; an instance or two in proof of this: A gentleman, aged twenty-six, who for ten years had a most distressing eruption of indurated acne, which has left many scars, and who had been treated in many ways, has acquired a beautiful complexion, in about three months, under the use of De Valangin's solution of arsenic, in doses increased from five drops to sixteen, three times daily. Other treatment, lithia, Kissingen water, Baréges baths, etc., has been carried on previously, conjointly and alternately, but the same measures had never the same effect until the use of the arsenic. A young lady of seventeen, with acne simplex, who is still under observation, has obtained a smoothness and delicacy of skin from De Valangin's solution which she never had before. A lady of thirty-five, who has had acne rosacea for years, finds that, after other treatment, the same arsenical solution in ten-drop doses has given her a complexion far better than she has had since the first appearance of the trouble. In a very marked case of hypertrophic acne rosacea of the end of the nose, in a man of forty years, there has been a diminution of the size of the swelling which is very evident, amounting to nearly one-third of the original size, under the internal use of arsenic, with local bathing in very hot water and a bismuth ointment, a drachm to the ounce.

I could readily give many other cases, but these are sufficient for illustration. Again, however, I must utter the caution against the indiscriminate use of this very powerful drug, and state, that it is only in certain cases, and after, or with other remedies, that arsenic can be of service; out of hundreds of cases of acne, I have given arsenic to but very few. As in eczema and psoriasis, so in acne, the patient is to be treated scientifically, and not the disease empirically; but, when it is decided to employ this remedy, rules must be observed, and its use persisted in, for its effects are manifested slowly.

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[1] *Medical Times and Gazette*, December 4, 1875.

I cannot state so positively from personal experience the value of arsenic in other diseases of the skin, but, from the improvement in the nutrition of the skin which I have seen in patients under its use, I am prepared to expect much more from it in proper cases than I was inclined to some years ago, or than most authors and practitioners experienced in cutaneous disorders are willing at the present time to admit. Whether I shall ever be able to indorse all that Mr. Thomas Hunt says of its action, I do not know; but he was a careful and conscientious clinical student, and his vast experience should encourage us to study our cases, and, when arsenic is suitable, to induce the patient to persist in its use, scientifically and intelligently managed, until results are obtained.

Mr. Milton, of London, agrees[1] with Mr. Hunt in regard to the efficacy of arsenic in *lupus*, and, from the recommendations of these gentlemen, we must believe that it possesses some controlling power over the disease, although other authors speak quite differently on the subject. Direct proof by capable witnesses must outweigh negative proof, however good; and the cases detailed by Hunt and Milton certainly encourage us to use this remedy in a disease which, though happily rare in this country, is exceedingly rebellious even here. I have used arsenic somewhat in lupus, but it was never faithfully tried, when compared to its use in Hunt's cases; and I am not willing that my negative testimony should have any bearing in the matter. Hunt states that, "in healthy subjects, arsenic internally administered is a specific" for lupus exedens, and that, in the non-ulcerating form, it will slowly arrest and modify the disease, and in some cases cure it; this without local applications. But, in one of his cases, arsenic was taken for two years with "*no appreciable improvement in the ulcer-*

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[1] "The Pathology and Treatment of Diseases of the Skin." London, 1874.

ated surfaces,"[1] while, during the third year, the lupus healed entirely; it had already carried away much of the nose, upper lip, and gums of the upper jaw. Other cases yielded much sooner. Milton regards arsenic as the only remedy in lupus of the head or face, and thinks that the dose should be very large, so as to bring on a certain amount of constitutional disturbance.

There are few diseases requiring more widely different treatment than chronic *urticaria*, but there is good authority for saying that arsenic will control it when due attention has been paid to the removal of exciting causes.

Arsenic is certainly useful in the forms of disease coming under the head of *lichen*, that is, in its more chronic forms, although alkalies and other remedies are constantly called for as well. The ordinary chronic lichen, or lichen agrius, as described by older writers, and still recognized as distinct from eczema by the French and many of the English, and which I meet with constantly, yields very promptly to arsenic. In the *lichen ruber*, a rare disease in this country, but perfectly described by Hebra, the latter states[2] that there is no internal or external remedy which has appeared to influence the disease to the slightest degree except arsenic, and, on the other hand, that this remedy has never failed in cases in which it has been given in sufficient quantity. According to Hebra, it is necessary to administer it for many months—six to eighteen—not only until the disappearance of the disease, but for some time thereafter. He uses the Asiatic pills (to be described later), beginning with three daily, and increasing gradually up to ten or twelve a day, at which dose the arsenic is to be continued for months, and then reduced to six pills daily. "In this manner," says he, "some patients, even children from twelve to thirteen years old, have taken in the course of some months or years as many as thirty-five hundred Asiatic pills, equivalent to three hundred and fifty grains of arsenious acid, with the effect of removing the lichen ruber and restoring the nutrition of the body to a normal state.

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[1] "A Guide to the Treatment of Diseases of the Skin," 8th edition. London, 1865, p. 164.

[2] "Lehrbuch der Hautkrankheiten." Zweite Aufl., Erlangen, 1874, p. 397.

We have never seen," continues he, "any ill effects therefrom. But little effect is produced upon the disease before the expiration of six weeks, and the use of from four to six hundred pills." Such statements, coming from Hebra, who is known chiefly by his disregard of internal remedies in treating diseases of the skin, are of interest and value.

I cannot further dwell on the special diseases of the skin in which arsenic has been prescribed, and for which it is recommended by those who have used the drug most, as Mr. Hunt, but may briefly mention them. *Ichthyosis*, in which others have found arsenic to fail, is said by Mr. Hunt to yield perfectly to it. I have exhibited it to several mild cases, more properly called *xeroderma*, and for a considerable length of time, without observing any effect from it, and should be inclined to doubt if it could ever affect the disease favorably. Hunt also reports most favorably of the use of arsenic in *sycosis*, and I have found it of decided service; that is, of course, in the form of sycosis which is not produced by a parasite. In an old and very obstinate case in a man aged thirty, arsenic in the form of De Valangin's solution, increased slowly until forty drops were taken three times a day, held the disease in check very perfectly, as was shown repeatedly when he omitted taking it for a little time, when the irritation would return and the disease increase. Epilation and other means of treatment were used, but the controlling power of the arsenic was manifest throughout the case. I will state, however, that the dose of forty drops of De Valangin was not well borne, but thirty-five drops three times a day were well tolerated. Finally Mr. Milton and Mr. Hunt, and perhaps others, declare that arsenic has great power over *warts*, especially when seated on the face. I have observed this to be true in one case; certainly some of the warts disappeared from the face quite rapidly without any other treatment save arsenic internally.

Having given the diseases in which we may, on good authority, order arsenic with a fair prospect of having favorable results, I will briefly state in what affections the remedy is useless or harmful; we will then consider for a moment the physiological action of arsenic as distinguished from its toxic effects, examining then the dangers to be apprehended; later its preparations and their doses; and finally will mention certain rules to be observed in administering this potent remedy.

First, then, syphilis in all its forms is uninfluenced by arsenic, except badly, and it should never be given unless called for by nervous symptoms or as a stomach tonic. The parasitic diseases, animal and vegetable, are equally beyond the power of arsenic; but here there is an exception, namely, that in certain cases of tinea circinata and tonsurans, the ringworm of the body and head, and in favus, where the disease is old, general, and deep-seated, arsenic may, by improving the nutrition of the skin, render it an unfit soil for the vegetable parasite to flourish in; ordinarily, however, its administration is entirely unnecessary.

Elephantiasis Græcorum, or true leprosy, cannot be benefited by arsenic. I do not know of its having been tried in the elephant leg or pachydermia, but presume that no results have been obtained, or we should have learned of it, the disease being so notoriously rebellious. Purpura, true prurigo, herpes zoster, scleroderma, molluscum contagiosum and fibrosum, keloid, and nævus, are all uninfluenced by arsenic, although Hunt gives a case of the latter which he states was cured by this mineral internally. In regard to cancerous diseases of the skin, and especially epithelioma and rodent ulcer, there is still some room for doubt, as certain authors think that they have seen benefit from the internal administration of arsenic in them.

And in this connection I may state concisely what I consider to be the present standpoint in regard to the external use of arsenic, and that especially in reference to the last-mentioned disease, epithelioma. There are two points of very great importance to be remembered in prescribing it locally, and these are, either to make the applications so weak and apply them so sparingly that no absorption can take place, or else, by a bold stroke, to apply the arsenic of such a strength as to kill at once the tissue, and so prevent absorption. Of the former I will not speak, as I have never yet used, and probably never shall use, mild preparations externally, for we may not know where absorption has taken place until too late. I may say, however, that it is altogether unjustifiable to use weak solutions or ointments of arsenic for the cure of the animal or vegetable parasite diseases, or as stimulants to large ulcerated surfaces, as has been done with alarming results. Stillé[1] gives some interesting particulars in regard to the dangers from the external application of arsenic, and there have been many fatal cases reported from the poison thus used.

But of the latter method I can speak with great assurance. I refer to that practised very largely, and recommended very earnestly by Marsden[2] in the treatment of certain forms of cancer, and to which my attention was called some years since by my friend Dr. Daniel Lewis, of New York, who afterward published some seven cases treated in this way.[3] Marsden recommends two drachms of powdered arsenious acid, with one of mucilage of gum acacia, to be mixed together and made into a thick paste. I have prepared it extemporaneously, using equal parts by weight of the white arsenic and powdered gum acacia, which I mix thoroughly, and then moisten with a drop or two of water at the time of application. This is to be spread on an epitheliomatous growth to an extent not exceeding a square inch at one application, according to Marsden (I have never used it to so large a space). When there is a large growth to be destroyed, successive portions may be attacked. A little cotton or lint is then packed on, the mass allowed to harden, and after eight or ten hours (Marsden says forty-eight) a flaxseed poultice is to be applied, and changed every two or three hours till the slough separates, which may occur in the course of a few days, sometimes not for two weeks or more. After this I continue poulticing the ulcer which is left, renewing the dressing every four hours, till perfect skin is formed, unless, as will sometimes occur, the destruction has not been deep enough, when the arsenical paste must be reapplied. The rationale is, as before stated, that absorption is prevented by the great strength of the application, and Marsden has never known

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[1] "Therapeutics and Materia Medica." Philadelphia, 1864, vol. ii., p. 700.

[2] "On a New and Successful Mode of treating Certain Forms of Cancer." 2d ed. London, 1874, p. 83.

[3] *American Practitioner*, December, 1874.

HE that believeth not the Son shall not see life; but the wrath of God abideth on him. John, 3 : 36.

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HE that believeth on the Son hath everlasting life. John, 3 : 36.

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serious consequences from it. I have used it repeatedly during the last three or four years, and consider it perfectly safe when used as described; I would, however, advise the reading of Marsden's little book before the treatment is entered upon. I hesitate to speak of other strong preparations of arsenic for external use, for which there are many formulæ recommended, because I have never used them, and, although my fears of absorption from weaker preparations than the one I have mentioned may be too great, I prefer to err on the safe side, and would, therefore, refer those interested to the various standard authors for an account of their preparation and use.

A moment may now be given to the physiological and toxic effects of arsenic preparatory to a study of its preparations and doses, and the rules for administering it. The immediate poisonous effects of large doses of arsenic are familiar to all, and need not occupy us here; death occurs, as is known, from paralysis of the heart, where very large quantities are absorbed, or there is inflammation of one or more of the abdominal viscera, which may prove fatal; or there may be some later affection of the nervous system—paralysis, etc.—which sometimes terminates life; these results are proportionate to the quantity taken, or rather the amount absorbed. Taylor states the smallest fatal dose at 2 grains, Tardieu at 1.54 to 2.31 grains.[1] The symptoms, of course, vary with the case, but in the main they can be divided into the three classes above given when death is the result.

Now, what do we know with reference to poisoning by the slower introduction of the mineral, or when the effect is produced by other than a single large dose introduced into the stomach? The symptoms given by Stillé,[2] in cases where nine men swept up some arsenic scattered in the hold of a vessel, were as follows: several were seized with vertigo and fell senseless; they were then attacked with vomiting and other symptoms of arsenical poisoning; two or three of the nine cases proved fatal in a few days. From arsenical fumes the following symptoms have been observed: debility, dyspnœa, præcordial pains and constriction, with severe cough, headache, pains in the limbs, muscular spasms and paralysis, thirst, nausea, vomiting, dryness of the mouth and fauces, and colic. Similar effects to a greater or less degree have been recorded as resulting from green paper-hangings on rooms,[1] also from certain colorings used in the manufacture of artificial flowers, fancy boxes, etc. Articles of dress have likewise been found to contain sufficient arsenic as a dye or mordant to produce the same in milder degree.[2]

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[1] Wood. "A Treatise on Therapeutics." 2d ed. Philadelphia, 1876, p. 363.

[2] "Therapeutics and Materia Medica." 2d ed. Philadelphia, 1864, vol. ii., p. 702.

I have seen similar conditions in the case of a woman who sat in a room which had been well strewn with Paris-green to destroy vermin. I have very recently met with a most interesting case where almost the first sign of arsenical poisoning was the development of a small, discrete pustular eruption, tending to ulceration on the arms and legs; all the other ordinary symptoms appeared shortly thereafter. The patient was a powerful, healthy man, who had been for one week employed in handling Paris-green, dealing it out in large quantities, principally for use against potato-bugs. He worked very hard and sweated profusely, and the room was constantly filled with the dust of the arsenic. At the end of the week he was completely prostrated. The subject of the dangers of the use of arsenic in agriculture has been considered very fully by Dr. Kedzie, of Michigan,[3] and is one which health authorities should take cognizance of.

Let us now turn to see if any such symptoms as those described are ever, or need be ever, called forth when arsenic is given medicinally and guided by an intelligent hand. There is always a physiological warning given by arsenic when therapeutically administered, which I do not find regarded by any one as one of its toxical effects, and that is the affection of the conjunctiva, with which all are conversant. After the administration for a while of a full medicinal dose, say from three to five drops of Fowler's solution, or more, that is, from $\frac{1}{40}$ to $\frac{1}{24}$ of a grain of white arsenic three times a day, a prickling sensation is felt in the tarsi, and the conjunctiva becomes slightly inflamed, especially at its middle zone, and on the inside of the lower lid, and there occurs some puffiness beneath the eyes. Hunt, whose experience in arsenic probably surpasses by far that of any other practitioner, states that this slight conjunctivitis takes the precedence of more grave symptoms in about forty-nine cases out of every fifty.[1] Gailleton also confirms this.[2] Hunt further says, "both the safety of the patient and the prospect of his recovery will depend upon the vigilance with which this fact inspires the surgeon. Ignorance of the existence of this safety-valve has caused many a cautious practitioner to repudiate the medicine altogether; and an acquaintance with this important sign would, doubtless, on the other hand, have checked the temerity which, in its results, has attainted with unmerited suspicion the reputation of a valuable remedy."

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[1] For an account of the dangers from arsenical wall-papers, *see* Dr. Kedzie's report, "Second Annual Report of the Secretary of State Board of Health of Michigan." Lansing, 1875, p. 55. Also, an article by Dr. Brown, of Boston, *Boston Medical and Surgical Journal*, May 11, 1876, pp. 529 and 544.

[2] *British Medical Journal*, November 21, 1874 (*Monthly Abstract of Medical Science*, January, 1875, p. 45).

[3] "Third Annual Report of Michigan State Board of Health." Lansing, 1876, p. 13.

It is needless to remind you that there is not the slightest danger to be apprehended from this slight conjunctivitis, which passes away spontaneously on a cessation of the remedy or lowering of the dose. It is often necessary to continue the conjunctival irritation for a long time, but it need never be carried to such an extent as to cause much physical uneasiness to the patient.

All observers who have studied the effects of arsenic in medicinal doses agree that the other symptoms liable to occur are as follows: a certain amount of nausea, and occasionally vomiting, when an overdose is reached, or even a slight diarrhœa, possibly a little fullness of the head, and constriction of the chest, and very occasionally tingling of the extremities, and anorexia. All these, however, are trivial, and pass away with the suspension of the remedy. Some writers describe a number of eruptions occurring from arsenic—erythema, urticaria, herpes zoster, furuncles, etc.—but none of these are common; I have never met with them among the hundreds to whom I have given arsenic. I have, it is true, seen an acute papular eruption affecting the upper part of the body when taking arsenic for localized eczema elsewhere, but cannot believe that it was other than an acute papular eczema, there being no other signs of an overdose of the mineral. I have also seen herpes zoster develop while under arsenic, but neither can I attribute this eruption to the drug for the same and other obvious reasons. I have already recorded a general pustular eruption in a patient poisoned by arsenic, but much of this was local, on parts exposed to the dust of the Paris-green.

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[1] "A Guide to the Treatment of Diseases of the Skin." 8th ed. London, 1865, p. 119.

[2] "Traité Élémentaire des Maladies de la Peau." Paris, 1874, p. 67. This is likewise shown in the elaborate study of arsenic by Imbert-Gourbeyre, "Études sur quelques Symptomes de l'Arsenic et les Eaux Minérales Arsénifères. Paris, Delahaye, 1863.

The only pathological change in the skin produced by arsenic taken medicinally, which is at all common, I believe to be the brown, pityriasic staining, described as a dingy, unwashed appearance, affecting the protected parts of the body. As far as I have observed it, it appears to resemble somewhat the ordinary chloasma, though less marked, found also in those who have taken no arsenic; undoubtedly in some instances both chloasma and the brownish tinea, or pityriasis versicolor, the parasitic disease, have been mistaken for it.

Finally, Weir Mitchel,[1] eleven years ago, reported two cases, one of which was very striking, where a temporary albuminuria attended the œdema following arsenic used therapeutically, but I have not been able to find any further illustrations of this by others.

The question now arises whether there is any danger to the general health from the long-continued use of this drug even in medicinal doses, a question continually asked by patients when aware that they are taking arsenic, and one of vital importance to the practitioner as well. Hunt reports,[2] from a survey of upwards of fifteen thousand recorded cases, and after having administered not less than five hundred gallons of arsenical solution in ten years' dispensary practice alone, that he has never seen any deleterious effects. Some of the patients took arsenic almost continuously for seven years together and not one with a result to be regretted. Says he,[1] "I have now administered arsenic for months or years together in many thousands of cases, and have watched in vain for the alarming effects attributed to its use. During more than thirty years' observation I have rarely known it to produce any unpleasant effects on the system in a degree incompatible with perseverance in its use; and I have taken pains to make extensive inquiries among more than a hundred of my professional brethren most familiar with its use. The British Medical Association, in 1848, addressed questions to its members and obtained replies from seventy-five practitioners who had used arsenic largely as a medicine and whose cases amounted in the aggregate to several thousands. Yet, in their answers to special inquiries, it appeared that not one of these practitioners had ever found the medicine either fatal or permanently detrimental to health." I have already given Hebra's experience with arsenic in lichen ruber in very large doses and for long periods, with only benefit to the patient's health; more than half an ounce in all of arsenious acid having been taken by a single patient. I may mention that in psoriasis he continues the same treatment for months,[2] and states that many patients have taken as high as two thousand pills, containing a total of two hundred grains of arsenic. Veil[3] reports the use of arsenic in seven hundred cases of skin-disease without a single untoward symptom or result. Romberg, who used arsenic greatly in nervous diseases, says:[4] "The proper precautions being used, I have never seen the slightest evil result occur, even in children, from the use of arsenic."

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[1] New York Medical Journal, vol. i., 1865, p. 169.

[2] *Journal of Cutaneous Medicine*, vol. ii., pp. 144, 249, 350.

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[1] "Diseases of the Skin," eighth edition. London, 1865, p. 16.

[2] "Lehrbuch der Hautkrankheiten." Zweite Aufl., 1874, Bd. I., p. 365.

[3] "Würtemb. Corr. Bltt.," No. 24, 1860. (Sydenham Year-Book, 1862, p. 415.)

[4] "A Manual of the Nervous Diseases of Man." Syden. edition. London, 1853, vol. ii., p. 74.

Hunt states in italics, that "*the reputation of arsenic as a slow poison in medicinal doses, rests upon no evidence whatever.*"

A demonstration of the safety of arsenic, when taken in quantities suited to the system, is found in the practice of arsenic-eating in Styria,[1] the verity of which is accepted by Stillé,[2] and which has been recently confirmed by Dr. Knapp.[3] This latter gentleman saw a healthy man of seventy, who had taken arsenic for forty years, and reports other very interesting points in regard to the tolerance of the mineral.

Another illustration of the safety of arsenic, suggested by Mr. Hunt, is as follows: The medicinal dose of arsenic averages one-twenty-fourth of a grain, and the smallest recorded fatal dose is two grains, or about fifty times the amount generally required in medicine. There is no other remedy where such a proportion is borne; imagine the effect of fifty times the dose of any ordinary medicine, or two hundred grains of calomel, one hundred of opium, thirty ounces of sulphate of magnesia, fifteen or twenty grains of morphia, half an ounce of quinia, and so on.

Space and time forbid my seeking further proof of the safety of arsenic when properly administered, and I will only add that I have prescribed it myself in very many cases for the past eight years, and have yet to regret its use. I have glanced over my public and private records during the past year and a half, and find that I have ordered it for between two and three hundred patients, in quantities varying from the minimum dose to forty drops of De Valangin's solution and twenty of Fowler. I have always directed it to be taken three times a day; in many instances it has been continued for months, and I have patients who have taken it for years, not only without injury to the health, but generally with marked benefit. The youngest patient to whom I have administered arsenic during the last year and a half was aged three and a half months, and I find many recorded at four and five months of age, and from that upward. I am aware that Ringer[1] gives a more serious picture of the effects of long-continued doses of arsenic, but I cannot imagine that he has reference to its therapeutic use by intelligent physicians; if so, where does he obtain his clinical evidence? It will be understood, of course, when I speak of the safety of arsenic, that it is in proper doses suited to the particular individual, for, as mentioned elsewhere, the dose is not always the same, and it is also with the understanding that the rules for its administration are followed, and that the earlier manifestations of its physiological action are always heeded, otherwise serious results may occur, which is true as well of any other medicine. It is not to be denied that serious results have followed the use of arsenic as a medicine,[2] but to a less degree, I firmly believe, than is true of any other remedy of equal potency.

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[1] *Edinburgh Medical Journal*, June, 1860, p. 1137; and *Medical Times and Gazette*, November 17, 1860, p. 494. ("Sydenham Year-Book," London, 1861, p. 61.)

[2] "Therapeutics and Materia Medica." Second edition. Philadelphia, 1864, vol. ii., p. 704.

[3] "Versamm. deut. Naturf. u. Aerzte zu Graz," *Allg. Med. Chir. Zeitung*, Beilage zu No. 97, December 4, 1875. (*Boston Medical and Surgical Journal*, May 11, 1876, p. 546.)

Arsenic is eliminated very rapidly, chiefly by the bowels and kidneys. Majer states[3] that arsenic always appears in the urine from six to twelve hours after a dose, and disappears in four to six days after leaving off the remedy. Two-thirds of the quantity taken is thus excreted. Hunt states that, in the case of a man who had taken arsenic for about a year, no trace of the mineral could be found on careful analysis of the body after death, which occurred two weeks after the last dose. Bodies of animals examined by Danzer and Flaudin three days after the last dose of arsenic, of which fifteen grains had been given daily, gave no trace of the drug.[4]

The United States Pharmacopœia[5] recognizes seven forms of arsenic, as follows: arsenicum, acidum arseniosum, arsenici iodidum, liquor arsenici et hydrargyri iodidi, liquor arsenici chloridi, liquor potassæ arsenitis, and liquor sodæ arsenitis; besides these, there are found in the dispensatory[1] arsenic acid, arseniate of ammonia, of iron, and of quinia, also the bi-sulphuret and ter-sulphuret of arsenic.

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[1] "A Hand-book of Therapeutics." Third edition. New York, 1872, p. 236.

[2] Stillé, *loc. cit.*, vol. ii., p. 705.

[3] *Würtemb. Med. Corresp. Bl.*, No. 13. ("Sydenham Year-Book," London, 1862, p. 230.)

[4] *Journal of Cutaneous Medicine*, vol. ii., p. 149.

[5] Fifth revision, 1874.

The metal arsenic is not given internally. Arsenious acid seems to be borne in larger doses when given alone than when combined with alkalies or acids, and, according to Hebra, the dose of one-tenth grain may be given in pill three times daily, increased, as we have seen, by him, to ten or twelve such pills in the twenty-four hours. Arsenic is usually given in this form in the East, and Hebra rarely employs any other. It is a safe and often convenient form in which to give arsenic, but is seldom employed in this country or in England. Hebra's formula for Asiatic pills[2] is to mix sixty grains of arsenious acid with six drachms of powdered black pepper, and divide the mass into six hundred pills, each thus representing one-tenth of a grain of arsenic. Neumann gives this prescription:[3] arsenious acid sixty-six grains, black pepper nine drachms, divide into eight hundred pills; each pill containing .08, or about $\frac{1}{12}$ grain of arsenious acid. Neligan states[4] that each Asiatic pill should contain about one-thirteenth grain. As no formula is given in the Dispensatory, care must be exercised, in ordering Asiatic pills, to state the quantity in each; it were safer to commence with a smaller dose than Hebra gives. Frequently arsenious acid is better tolerated when combined with opium, thus: ℞. Acid. arsen., gr. j; pulv. opii, gr. iv. M. Div. in pil. No. xvi. When used in solution, arsenious acid should be ordered first, in the dose of one-twentieth grain, three times daily.

The iodide of arsenic is seldom now used internally, although the late Dr. A. T. Thompson prized it, and Neligan[5] recommends highly what he calls the ioduretted solution of the iodide of potassium and arsenic, after the following formula: ℞. Liq. potass. arsenit., ♏ lxxx; potass. iod., gr. xvi; iodi. pur., gr. iv.; syr. flor. aurant., ℥ ij. M. Each drachm of this contains five minims of Fowler's solution. Iodide of arsenic may be well given in pill form, one-twelfth to one-eighth grain, gradually increased.

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[1] "The Dispensatory of the United States of America." Twelfth edition. Philadelphia, 1867.

[2] "Lehrbuch der Hautkrankheiten." Zweite Aufl., Erlangen, 1874, Band I., p. 365.

[3] "Lehrbuch der Hautkrankheiten." Third edition. Wien, 1873, p. 266.

[4] "A Practical Treatise on Diseases of the Skin." Philadelphia, 1852, p. 186.

[5] *Loc. cit.*, p. 185.

Of the next officinal preparation of arsenic, Donovan's solution, the liquor arsenici et hydrargyri iodidi, Mr. Hunt remarks: "If there be any medicine more dangerous and unmanageable than another, it is that villainous compound of arsenic, iodine, and mercury, known by the name of Donovan's solution," an opinion which many others share. I never prescribe it, for I have abundantly witnessed its inefficacy and ill effects in patients who have taken it previous to coming under my care.

The liquor arsenici chloridi, recently admitted into our pharmacopœia, is intended to replace the old English preparation frequently referred to in this paper, De Valangin's solution of the chloride of arsenic, the *solutio solventis mineralis.* The formula for this latter was given in the twelfth edition of the Dispensatory, 1867, under the present title, liquor arsenici chloridi, but its strength is only about one-third that of the accepted officinal solution. I would call especial attention to this fact, as all my cases here referred to, and those mentioned by Hunt, Milton, Gaskoin,[1] and perhaps others, were treated by the solution made from the old formula, where there is only one and a half grain to the ounce, and twenty minims contained but one-sixteenth of a grain of arsenic; whereas the present solution is of the strength of four grains to the ounce, to correspond with the other arsenical solutions, and twenty minims represents one-sixth grain, instead of one-sixteenth, as eretofore. I will also direct attention to the formula for the quor sodæ arsenitis, which is now fixed at four grains to the unce, while Pearson's solution, as originally used, contained ut one grain to the ounce, or one-fourth the present officinal mount. We cannot be too careful in handling severe and otent remedies.

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[1] "On the Psoriasis or Lepra." London, 1875.

De Valangin's solution, or the liquor arsenici chloridi, consider, in some respects, to be the best form in which to introduce arsenic into the system, although I would by no mean neglect other preparations, and this solution is much recommended by Hunt, Milton, and Gaskoin, and Wilson places first in his formulæ for arsenical remedies. The reason of i superior efficacy is probably because the arsenic is united wit hydrochloric acid, which corresponds to the normal stomac acidity.

These three officinal solutions, just mentioned, being equal strength, we may consider their action together: the are, I believe, each one suited to fulfill different ends, and a all of great value. I will introduce into this group a fourt preparation, now almost forgotten, but used with advanta by Biett, and which will, on occasion, serve a good en namely, the arseniate of ammonia. It is described in th Dispensatory, where a solution of a grain to the ounce directed, of which from twenty to twenty-five drops may b given; it were better to make the solution of the san strength as the others, four grains to the ounce, and prescri it in the same doses as the other solutions.

The liquor arsenici chloridi, then, is of more especial se vice where an acid is called for by the general state of the sy tem, and it may often be advantageously combined with m riatic and nitro-muriatic acid, also with the muriated tinctu of iron. Fowler's solution is applicable where potash salts a required, and is often very happily united in the same p scription with liquor potassæ, acetate of potassa, etc.; the s lution of the acetate of soda is the same in reference to so salts, and the arseniate of ammonia has its functions to fulfi when salts of ammonia are wanted, and may be well prescrib with the aromatic spirits of ammonia, liquor ammoniæ acetat etc. Now, it is no idle matter, whether a patient with a d ease of the skin receives muriatic acid, potassa, soda, or one the salts of ammonia; and I believe we will get far bet results if we will have more in respect the state of the syst at large and its demands. For this reason, therefore, I thi we should study a case of skin-disease, and, when we det mine that arsenic is called for, seek that preparation best adapted to the exigencies of the case.

To conclude the list of the preparations of arsenic and their uses: Arsenic acid has therapeutic effects similar to those of arsenious acid, but is more poisonous; the dose is one-twentieth of a grain, in aqueous solution, but I do not know of its having been ever prescribed in diseases of the skin; Garrod believes[1] that it is less irritating to the stomach, and can be prescribed in larger quantities than other preparations. Of the arseniates of iron and quinia I cannot speak from experience, and can find but little in regard to their use;[2] the former is officinal in the British Pharmacopœia, and the formulæ for both are found in the United States Dispensatory. Good results might be expected from these combinations, but the iron and quinia are in such small quantities that their action must be quite insignificant. The dose of the arseniate of iron is from one-tenth to one-eighth of a grain, in pill, three times daily; of the arsenite of quinia, one-third of a grain may be given at once. I do not know of either the bi- or ter-sulphuret of arsenic being used internally in skin-disease; the latter orpiment, or King's yellow, is employed considerably as an ingredient of depilatory powders, and is quite safe when thus used under medical guidance.

A new preparation of arsenic has recently been introduced, especially in the treatment of nervous affections, in which phosphorus is combined with the chloride of arsenic, after the following formula by Routh: ℞. Acidi arseniosi, gr. j; phosphori, gr. one-sixth; acidi hydrochlor. dil., ℥j. M. It is known as the solution of the chloro-phosphide of arsenic, the dose being, for an adult, fifteen to twenty minims, thrice daily. It promises well in diseases of the skin of a nervous type. The arseniate of antimony has been employed in certain diseases, but I have not yet learned of its use in those affecting the skin.

A word may now be said, in general, relative to the dose and mode of administering arsenic. The common practice, as is well known, is to give a small dose at first, say three drops, more or less, of Fowler's solution, or its equivalent, and then to increase the dose slowly until some of the physiological symptoms are manifested; then to lower the dose just sufficiently that it may be well tolerated. This is the plan recommended by many authors, and is the one which I have often followed, as is shown in the cases detailed. But Hunt, who is so justly quoted in everything pertaining to arsenic, regards the rapid increasing of the doses, recommended by some, as a serious error, and proceeds in an exactly opposite manner. He orders a pretty full dose, say, five minims of Fowler, at once, and persists in it for a fortnight or three weeks, and, if it produces no sensible effects, he then increases, say, by one-fifth of the dose once or twice a month until the remedy begins to assert itself, when the full dose may be considered as arrived at, and is to be persevered in without further increase. He does not produce any great amount of disturbance, but does keep the eyes slightly tender. A third plan is, to give only small doses, not sufficient to produce any of the symptoms of arsenic, and to continue them without increasing.

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[1] Reynolds's "System of Medicine," Philadelphia, 1868, vol. i., article "Gout," p. 887.

[2] Duchesne Duparc, *Gazette des Hôpitaux.* (*Braithwaite's Retrospect,* anuary, 1855, part xxx., p. 175.)

Hunt's plan does not differ much from that first mentioned, except that he gives larger doses at first, and increases more slowly. Inasmuch as some persons are readily affected by arsenic, it is safer, I think, to commence with the smaller dose, and not to increase very rapidly. I believe, however, that very commonly all the effects of the drug can be obtained from small doses, long persisted in, without much increase.

I have never met with any of those cases which are said to be so very susceptible to the action of arsenic, although such undoubtedly exist, and it must always be borne in mind that the dose of arsenic may vary for different individuals and cases, just as does that of any other remedy. Mr. Hunt has known one-fourth of a minim of Fowler's solution, thrice daily, to cure psoriasis in a delicate female, whereas some patients, as in the instances I have given, tolerate very large doses with impunity and with benefit.

But arsenic, when administered medicinally, should be taken with the utmost regularity, and I most earnestly indorse the following, from Mr. Milton:[1] "The plan, once decided upon, should be regularly and consistently carried out, and, if any interruptions be thought requisite, they should only be made on really valid grounds, and be as systematic as the rules for taking the medicine. The surgeon may often suspend the arsenic with advantage; the suspension of it by the patient without orders can scarcely fail, sooner or later, to retard the cure. If the patient will give up arsenic whenever he is going out to see his friends or when he has friends coming to see him, when he is away on business or pleasure, when he is tired of taking medicine or fancies that it may not agree with him, in short, if he will take it in any way but the right way, he had better not take it at all."

Arsenic should never be intrusted to a patient for a long time to use at his own discretion; those taking it should be carefully watched and seen very often; some insist on seeing patients who are under its use every few days, and seldom should the intervals of time be marked by weeks, never by nonths; for, while in very many instances all is well and no change need be made, the medical judgment alone can tell if he effects are bad or good, for it is not possible to foreknow ts action in every case.

It is often advisable and necessary to give arsenic in a oncealed form, for many patients who have once tried it, owever unfaithfully, will not have confidence in it again, and nany will fancy that they cannot take it, or if they are aware f its use they very readily imagine many of the symptoms vhich are liable to occur. We are, therefore, justified in conealing the fact, if possible, for, as McCall Anderson remarks,[2] All that our patients can ask of us is, to do everything in ur power to benefit them," and I myself cannot see wherein concerns them what the remedy is.

For this and other reasons it will often be convenient to ive arsenic in pill-form. Any of the solutions may be thus rescribed very conveniently by having the requisite quantity of the liquid for a given number of pills mixed with some inert powder or with other ingredients, so as to make a soft paste; this may then be dried on a water-bath until of proper consistence, and afterward be divided into the desired number of pills. I have used this method of administering arsenic considerably, and am much pleased with it; I thought the idea was original to myself alone, but I find that Gaskoin mentions it in regard to Fowler's solution. Arsenious acid is furnished in pill-form in various doses, alone and combined with other remedies, by some of our manufacturing chemists, and some of the compound formulæ might be of service when it is desirable to give arsenic unknown to the patient.

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[1] "The Pathology and Treatment of Diseases of the Skin," London, 72, p. 6.

[2] "A Practical Treatise on Eczema," etc., third edition, London, 1874, 103.

Arsenic should always be given with or immediately after meals and not before, as the habit with some is. (There are, of course, exceptions to this rule, as we know that in certain forms of dyspepsia it answers best on an empty stomach.) I much prefer administering it during the meals, and I have the dose placed in the glass of water which is to be drunk during the meal, or in a separate wineglass. For this reason it is often better to separate the arsenic and put it in a watery solution, say of a strength so that ten drops or minims shall contain one of the arsenical preparation, then thirty, thirty-five, forty, forty-five, and so on, minims may be given. By this means the dose is varied with greater exactness than if the arsenic alone was dropped out; also there is less danger of mistake, as each minim represents but one-tenth the amount of the pure solution. Arsenic should never be given to the patient in the pure officinal solution, with directions to drop it out, as the drops vary so much with the size and shape of the edge from which it is dropped; in the plan proposed of giving it diluted, it is also much better to insist upon the patient having a minim glass and measuring the dose. It will sometimes be of advantage to add a small amount of an appropriate acid or alkali to each dose; thus the remedy is given in a form much like the natural arsenical waters, with which I have no personal experience, but which are highly prized by some.[1] I agree most heartily with many other writers in omitting the nauseous and useless compound tincture of lavender from Fowler's solution.

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[1] "Note sur le Traitement de l'Eczéma et du Psoriasis aux Eaux Arsenicales de la Bourboule," Paris, Asselin., 1876; also Wilson, "On Disease

One more method of administering arsenic remains to be mentioned, and that is, by hypodermic injection. This has been safely and successfully practised by Lipp,[1] in psoriasis and chronic eczema, who used arsenious acid dissolved in distilled water, with heat (gr. iv ad ℥j). He injected from one-twentieth to one-fifth of a grain once daily, or omitting a day or two, and obtained the distinct, constitutional effects of arsenic from the larger doses; the smaller doses were quite safe. There were no abscesses, and but moderate inflammatory action at the site of puncture. Radcliffe[2] injected Fowler's olution about every other day, increasing the dose from five o fourteen minims, with the result of curing chorea; and in neuralgia the same was injected in doses increasing from ten o thirty minims. This method may prove useful in some ases of skin-disease, as in severe pemphigus, threatening life, where the drug could not be given internally; also in other diseases where the stomach will not retain it, or where it fails o act when introduced by this channel.

In regard to the principles or rules to be observed in the se of arsenic therapeutically, they may, in the main, with what has preceded, be summed up as follows:

1. Arsenic, when administered in medicinal doses, has uite another action from that manifested by poisonous doses; he average dose of the former is one twenty-fourth of a grain f arsenious acid, while the smallest toxic dose is stated at wo grains.

2. Arsenic in medicinal doses does not produce any slow oisoning, but has been administered for months or years in uantities a small portion of whose aggregate amount would estroy life at once. Hebra has administered a total of more

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the Skin," London, 1867, p. 125; also, Diday and Doyon, "Thérapeutique des Maladies Vénériennes et des Maladies Cutanées. Paris, asson, 1876, p. 870.

[1] *Archiv für Dermatol. und Syph.*, vol. i., p. 362.

[2] Waring's "Practical Therapeutics," Philadelphia, 1874, third edition, 108.

than half an ounce to a single patient. The accounts of the toxiphagi of Styria are true, and arsenic is eaten by some for many years without apparent ill effect.

3. Arsenic given by a careful practitioner, in doses to be effective, need never produce any symptoms which should cause regret.

4. Arsenic is eliminated very rapidly, chiefly by the bowels and kidneys, so that the urine shows evidences of it in a few hours; no trace of it can be found on careful analysis of the body after death, two weeks after the last dose of arsenic.

5. Arsenic, therefore, does not accumulate in the system, and no fear of this need be entertained; but when it is administered in increasing doses absorption may be hindered, and, when the doses become very large, active absorption of the large dose may give rise to a suspicion of cumulative action.

6. The first symptom of a full dose of arsenic, in a very large share of cases, is a fullness about the face and eyes, and conjunctival irritation and tenderness. This need not be exceeded, but may often be kept up with advantage to a slight degree till the disease yields. Before any harm is done by the arsenic, either this or a slight nausea or diarrhœa manifests itself.

7. Arsenic should always be given with or just after meals; it is often best to give it alone, or with a small amount of bitter infusion.

8. The bowels should be first well purged, and an occasional laxative will both assist the action of the drug and prevent or modify some of its unpleasant effects.

9. If the urine becomes loaded and the tongue coated, it is best to stop the medicine for a short time and give diuretics; some of these disturbances can be prevented by combining an alkali, as acetate of potassa, carbonate of soda, or aromatic spirits of ammonia, with the arsenic.

10. The most serviceable forms in which to use arsenic, named in the order of their value, are: solution of the chloride of arsenic, solution of the arseniate of potassa, that of the arseniate of soda, and the arseniate of ammonia, arsenious acid,

iodide of arsenic, and the arseniates of iron and quinia; of as yet untried efficacy, solution of the chloro-phosphide of arsenic and arseniate of antimony.

11. The dose of arsenic, small at first, is to be increased slowly until some of its physiological effects are manifested or the disease yields; it may then be somewhat diminished.

12. It is very important that arsenic be taken very regularly and persistently, and always under the supervision and frequent inspection of the physician.

13. Arsenic is valuable in chronic rheumatism, hence is useful in arthritic eruptions; it is serviceable in certain neuroses, as chorea and neuralgia, therefore in skin-diseases with neurotic elements; and it possesses anti-malarial properties, and is consequently serviceable in diseases of the skin showing periodic symptoms, as intermittent urticaria, etc., likewise in patients with other skin-diseases who have been exposed to miasmatic influences.

14. Arsenic is certainly valuable in psoriasis, eczema, pemphigus, acne, and lichen, in proper cases and when due regard is paid to the secretory organs, and to diet and other elements of general health; of less certain value in lupus, ichthyosis, sycosis, verruca and epitheliomatous and cancerous diseases; it is absolutely useless or harmful in the syphilodermata, the animal and vegetable parasitic diseases (except in rare cases), in elephantiasis Græcorum and Arabum, in purpura, true prurigo, herpes zoster, scleroderma, molluscum contagiosum and fibrosum, keloid, vitiligo, nævus, etc.

15. The only local application of arsenic which is justifiable is either one where the strength is so weak, and the extent of its use so small, that there is no danger from absorption, which may occur when not expected, or, one of such a strength as to kill the adjoining tissue at once, and so prevent absorption, as is the case with Marsden's mucilage.

ART. II.—*Nitrogen and Life.* By THOS. J. MAYS, M. D.

TRULY has it been said, "No phosphorus, no life;" but with equal and perhaps greater truth can it be said, no nitrogen, no life. No other single element is a greater factor in, and contributes more to the vital activities taking place around us, excepting oxygen, than nitrogen. We discern it in the air, seed, fibre, and protoplasm. It is diffused abundantly in regions where the other life generators are excluded. It is one of the four main elements which constitute all organic bodies, and composes about four-fifths of the atmosphere. Its chemical affinity is feebler than that of any other element, and hence it is found uncombined in nature. With oxygen it forms protoxide of nitrogen (NO); deutoxide of nitrogen (NO_2); nitrous acid (NO_3); protoxide of nitrogen or hypo-nitric acid (NO_4); and nitric acid (NO_5). With hydrogen, ammonia (NH_3). With carbon, cyanogen (N_1C_2); and paracyanogen (N_3C_6).

Before we proceed to show the important part that nitrogen plays in the sphere of life, it is necessary to give some proximate definition of life, which has been defined by the highest living authority[1] to be "a continuous adjustment of internal to external relations;" and we could well, if digression would permit, demonstrate the gradual evolution of life from the lowest vegetable cell to the highest animal organism under this general law; but we will content ourselves by calling attention to the fact that, under this constant law, organisms that have already attained a high degree of structural growth and development are, no less than the primordial forms of life, subject to its changes.

The development of the muscle in the blacksmith's arm and in the dancer's leg; the thickening of the epidermis on the laborer's hand; the induration of the finger-ends of the violinist and guitarist; the callosity of the gums resulting from a loss of teeth; an obstruction in the circulatory apparatus, giving rise to hypertrophy of the heart, on account of the greater power required to sustain the blood-current; the obliteration of an aneurism causing an enlargement of the neighboring blood-vessels; the bones of animals accustomed to great muscular exertion having their points of insertion for muscles raised more prominently than others who lead a more quiet and sedentary life; the difference of development between the legs and wings of the fowl and bird, the former attaining a greater relative size in the fowl, while the latter is found relatively larger in the bird; false joints, the result of ununited fractures, or unadjusted dislocations often invested by synovial membranes and fluid; eyeless fishes inhabiting subterranean waters; the long-sighted countryman as compared with the near-sighted townsman: these and countless other striking instances could be given to prove the constant adaptation of the internal to the external. This wise and beneficent law preserves animals and plants, when transferred from one medium to another, unless the transition is too great or sudden. If such obvious changes occur, who will limit them; or who will say, Here they begin and there they end? None; for if a definite change takes place in definite time, then indefinite change will follow in indefinite time.

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[1] Herbert Spencer; to whose works I am greatly indebted for important points in this essay.—AUTHOR.

If life is the adjustment of internal to external relations, then death, which is the opposite condition of life, must be a stoppage of this process; for, at the same time that there is an action from the external on the internal, there must necessarily be a reaction from the internal on the external, since action and reaction are always equal. It follows from this law, that when a body or substance is too weak, too unstable, to equal external influences, it disintegrates into a lower but more stable condition, and, in the living body, this destroys that state of correspondence between the internal and external which we call Life. This is illustrated when life is exposed to undue heat or cold, and the forces of the body are overcome, and the equilibrium destroyed. We saw that death results from a destruction of the harmony between the external and the internal; hence it must follow that the degree of life corresponds with the degree of adjustment between the internal and external, and we propose to show that nitrogen contributes a large share to this process.

The animal body, as defined by Dr. Dalton, is composed of three proximate principles: inorganic, organic, or non-nitrogenous, and organic or nitrogenous; the last of which form the greater bulk of the tissues, and with these we have principally to deal. They are obtained from the animal and vegetable world, and differ from the other two classes in that they contain nitrogen in connection with the other elements.

On inspection, it will be seen that the nitrogenous compounds are derived from two different sources in the body, and have a strong contrast of chemical and physical properties. Albumen, fibrin, casein, globulin, pepsin, pancreatine, mucosine, osteine, cartilagine, musculine, hematine, melanine, biliverdine, urosacine are found as nitrogenous constituents of living tissue in the state of their integrity and highest activity; while urea, creatine, creatinine, taurine, are the products of the decomposition of nitrogenous compounds in the body, and are found in the excretions. The chemical composition of the former is very indefinite. They are so unstable as to decompose under ordinary conditions in consequence of the slightest cause. The relative quantities of the elements which enter into these compounds vary a great deal at different times and in different parts of the body, without changing the identity of the substance to any material degree. They show that peculiar molecular mobility which we call isomerism to a very large extent. Some have a soluble and insoluble form. Substances of the other two classes of proximate principles, as sugar, starch, oleine, or phosphate of lime, which have a definite chemical composition, could not sustain any loss of their elements without a total destruction of their individuality; but the nitrogenous compounds, though they may contain a few atoms more or less, do not on that account cease to be nitrogenous compounds. On considering the physical and chemical relations of these two kinds of nitrogenous compounds, we find that in the former molecular mobility is reduced to the lowest degree. They are only known in the solid or semi-solid state, and cannot be diffused or volatilized. They are characterized by chemical inertness and instability in the extreme. Although they act as a base and unite chemically with acids and alkalies, yet their unions are very feeble; for the acid or alkali is not neutralized, but remains as strong after the combination as before. The latter or excretionary class exhibit molecular mobility in a higher degree, yet not so much as many simpler compounds, remaining solid at ordinary temperatures, fusing above 212° Fahr., and have never been known to assume the gaseous state under any degree of temperature. Their chemical condition is relatively more stable, and we shall hereafter find that this greater relative molecular mobility and chemical stability, which the latter possess over the former, have an important relation to the process of carrying on the adjustment of internal to external relations.

On inquiring into the cause of the extreme molecular immobility and chemical instability of the nitrogenous compounds, we find that the element nitrogen, which is the leading and characteristic quality, is found only in the aëriform state, and that its chemical affinity is very fickle and weak. While nitrogen in its free state is extremely mobile, yet when it enters into combination this physical property is destroyed in proportion to the complexity of its union. This holds true with a remarkable gradation in its different combinations with oxygen. Protoxide of nitrogen, which consists of one atom of oxygen and nitrogen each, is a gas at ordinary temperatures, and only condenses under a pressure of some eight hundred lbs.; nitrous acid (NO_3) is also a gas, but condenses into a liquid at the zero of Fahr.; hyponitric acid (NO_4) is a gas at 71°, liquid between that and 16°, and solid at a temperature below this, while nitric acid (NO_6) may be obtained in crystals which melt at 85° and boil at 113°. This is also true in its combinations with hydrogen and carbon. With hydrogen forming ammonia (NH_3) which is a gas at ordinary conditions, but a liquid at 40°. With carbon forming cyanogen (NC_2), and paracyanogen (N_3C_6). Cyanogen is a liquid at a pressure of seventy pounds, and solid at ordinary temperatures. All substances conform to this general law, that "molecular mobility decreases as their masses increase," and we saw how this holds true with hardly any variation in the combinations of nitrogen with oxygen, hydrogen, and carbon. This law also holds with surprising uniformity in the union of oxygen and hydrogen to form water. Here two elements, which are never known in any other but a gaseous condition, unite and form a substance which is a fluid at ordinary temperatures and a solid at 32° Fahr. If, then, molecular mobility diminishes in accordance with the complex composition of a substance, do we need wonder that these complex compounds of the bodily tissues are so highly inert? There is a great interval, in point of complexity, between the simple composition of water and the intricate union of 216 parts of C, 166 parts of H, 27 parts of N, and 68 parts of O, to form albumen.

Though all the nitrogenous compounds are so exceedingly immobile and inert, they easily decompose. Every one knows how difficult it is to preserve meat during summer, yet this constant tendency to disintegration is not due to its physical, but to its chemical properties. In considering the nitrogenous compounds in reference to their chemical characteristics, we notice that nitrogen is a very flinching and wavering element, never satisfied, always restless, except in solitude, and whenever entering into combination it always strives to forsake its partner, hence the exceeding unstableness of nearly all nitrogen compounds. This is equally true in the inorganic and organic worlds. All explosive substances, without exception, contain nitrogen. Gunpowder contains nitrate of potash; guncotton, nitric acid; fulminic acid—a nitrogenous acid—forms the various fulminates, and is so fickle that it cannot be prepared in a separate state. Nitro-mannite, chloride of nitrogen, nitro-glycerine, iodide of nitrogen, as their several names imply, contain nitrogen, and we know the dangerous explosiveness of all these compounds, sometimes detonating without any assignable cause.

In regard to their consistency the tissues of the body may be divided into colloids and crystalloids; and, although the former class not only includes the most complex nitrogenous and some non-nitrogenous compounds as well as several inorganic substances, such as peroxide of iron, hydrated silicic acid, etc., we shall principally concern ourselves with those colloids and crystalloids of a nitrogenous character, and dispense with a discussion of the non-nitrogenous substances as much as will be in keeping with the proper treatment of our subject.

On comparing the colloids and crystalloids we see a profound difference in their physical properties, and consequently in the functions which they perform toward sustaining the process of vital organization. On taking a solution of salt and jelly and separating them with an animal membrane, the salt will pass over into the jelly, while a small quantity of jelly, if any, will pass over into the solution of salt; or, on opening the shell of an egg and then immersing it in water, the water will freely pass into the egg, but no albumen will exude from the egg until actually expelled from within by the absorbed water.

These properties of colloids and crystalloids depend upon the universal law of diffusion, which affects all matter, and particularly that of a gaseous or fluid consistency. According to the Lucretian theory, all matter, whether solid, liquid, or gaseous, is in constant motion. The consistency of bodies is due to this constant molecular motion, varying of course in different bodies. In solids, molecular motion is reduced to the lowest degree and confined to a very narrow range; in liquids the molecules have a greater sway and are in less proximity than in solids, while in a gas they have a still greater freedom of action. We say heat raises water from its solid to its fluid, and thence to its gaseous condition, yet the extreme variation in the different conditions of water is owing to the different stages of molecular motion.

There is a great difference between the diffusive power of different substances. Alcohol, ether, and ammonia, at ordinary temperatures diffuse themselves through the air with great facility, while solids show no such diffusive powers. Prof. Graham, while experimenting on the diffusive properties of substances, found that diffusibility, other things equal, has a direct relation to their atomic weight. That is to say, small and light-atomed substances diffuse more readily than large and heavy-atomed ones, and this seems to be a legitimate conclusion, for atoms in the process of diffusion must come in collision with other atoms, and smaller atoms will permeate or diffuse quicker and easier through a large-atomed medium, merely because they are not so massive, than larger ones would in going through a small-atomed medium. Prof. Graham found hydrochloric acid—which is of very low atomic weight—to be "seven times as diffusible as sulphate of magnesia, and fifty times as diffusible as albumen, and a hundred times as diffusible as caramel," differences which accord with the different sizes of atoms entering into the composition of these substances.

But this is not all. Colloids, which are extremely immobile, by falling from their complex composition, may become crystalloids, and likewise more diffusible, as, for example, albumen, fibrin, etc., which are highly fixed and physically inert, disintegrate within the body into urea and other nitrogenous excretions. These colloids possess a compound atomicity, *i. e.*, simple atoms are compounded into one, and, when deteriorating into crystalloids, they assume a simpler and smaller atomicity or molecularity, and hence their greater diffusibility.

Now, this difference of the physical properties between colloids and crystalloids is of great value in carrying on the phenomena of the living body. We saw that a solution of salt and water permeate a mass of jelly and albumen very readily, yet the latter shows very little, if any diffusive tendency through the salt, and remains in an almost stationary condition. Now, when we take into consideration that the large mass of the body is composed of colloidal and crystalloidal tissue, and that it is essential that the former should remain constant and the latter diffuse, this phenomenon has an important bearing on our subject.

Though the colloidal tissues throughout the body are very inert physically, yet chemically, as we have seen, they are exceedingly unstable. They are constantly undergoing a chemical transformation, and this of course implies a constant waste and repair—a constant tearing down and building up—and this further implies a constant transmission of material for building up, as well as a constant drainage of the waste products; but this the colloidal tissue cannot perform on account of its extreme physical immobility. Here the action of the crystalloids comes into play. We saw that they are all extremely diffusible, and hence water, which forms about four-fifths of the whole body, is the great medium which conveys the nutriment to the tissues and also carries off the waste products of organic action. Were it not for the extreme mobility and diffusibility of the crystalloids, in connection with the power of imbibition which colloids have, there could not be that continuous change of matter within the body which is so paramount to a well-regulated organism. On the other hand, were it not for the supreme immobility and inertia of the colloidal compounds there could not be that mechanical fixity which prevents them from diffusing away with the products of waste.

The colloids and crystalloids have another important relation. Crystalloids of a high molecular activity, holding in solution colloids and crystalloids, are constantly passing into the mass of colloidal tissue, and there the colloids are decomposed and transformed into crystalloids—the products of excretion—which diffuse away as rapidly as they are formed. If this wise provision were not supplied in nature, a great portion of the waste products could not be transported away as quickly as produced, and would impede the process of life. And again, this extraordinary, thorough diffusion of the crystalloids through the colloids renders them essential servants in carrying on the process of renovation in every particle of the body, for it is extremely necessary that every atom should have its wants supplied and its waste cleared away.

Another force comes into play here and facilitates the power of diffusion and imbibition. It is very important that the water, after having unloaded its nutriment, should not remain, but rapidly escape, and the body loses a little over three pounds of water during twenty-four hours, by evaporation; and this process is greatly intensified in an elevated state of the temperature and depressed in an opposite condition. So we may safely say that, other things equal, the rapidity of evaporation is determined by heat.

It has been satisfactorily demonstrated by Dr. Draper, the distinguished physiologist and philosopher, that the capillary circulation of the blood is not effected by the *vis a tergo* of the heart, but by the *vis a fronte* of capillary attraction, *plus* the diffusive power of the blood. This is clearly illustrated in plant-life, where the sap rises without any heart to force it along its passage. Though it is partly driven along by osmotic action of the roots, which contain a large proportion of colloid tissue, yet the main forces are diffusion and capillary attraction. The withered condition of a plant in dry weather is the effect of the active evaporation, caused by heat; yet it will soon revive on receiving a sufficient amount of moisture. Now, the elevation of the sap is determined in a great measure by the amount of heat present, for in the spring, when the temperature rises, the sap begins to circulate, and falls again in the autumn of the year. That which takes place on the surface of the leaf also takes place on the surface of the body. The evaporation of water here is very great, greater than in any other single channel of excretion; and we can very easily perceive how this process of evaporation conduces to the maintenance of the streams of crystalloids through the colloids.

Aside from the fact that the process of evaporation is regulated largely by external heat, animals can generate internal heat which sustains their temperature above that which surrounds them. Heat, within the body, as well as outside, is a raised state of molecular motion, and a great portion of this elevated molecular motion is effected by the chemical union of oxygen with the food and tissues. It is not necessary that all the nutriment should become organized into tissue before it is fit to combine with oxygen. This is only partly true of the nitrogenous and perhaps wholly of the non-nitrogenous class. Though fat prevails largely in the body, yet it is only deposited as such, and not truly organized. The generation of heat in the body, then, requires that our food should be in an unoxidized but oxidizable condition, so it can readily combine with oxygen, and such combinations we find exactly in the excretions.

It is a fact, long known, that the proper sphere for the development of plant-life is under the influence of sunlight. Without light the decomposition of carbonic acid and water could not take place in the leaf. Light overcomes the powerful chemical affinity existing between oxygen and hydrogen and carbon, separating the two latter from the former, after which they are organized into vegetable fibre. But the seed of the plant, which flourishes underneath the ground, cannot receive its incentive to growth from the life-giving rays of the sun. Now, it is evident that the seed must obtain its generating force from some other source than the sun; and this it does, for it always contains a greater proportion of nitrogen than the plant; which, in virtue of its great chemical instability and activity, supplies the force to the seed, and thus, in conjunction with the influence of its surroundings, develops into a leafy plant, whence it is sustained by sunlight. Nor is this all. There is a large group of plants, the Fungi, which maintain their life and flourish abundantly in coal-mines and other places of darkness, where never a ray of sunlight enters, and it is a stubborn fact that they contain a larger proportion of nitrogen than other plants.

And this also holds true throughout all animal life, that the more independent activity required, the more nitrogen is present. Though the sun is the primary source of all life, yet nitrogen contributes more than sunlight to the greater activities taking place in the higher orders of life. The different tissues in the body possess nitrogen in correspondence to their activity. The nervous tissue holds a large share of nitrogen, and the gray substance more than the white. Liebig says that "the gray portion of the brain appears to be chiefly albuminous; while the white portion consists of an albuminous tissue similar to the gray, but loaded with fats." It is admitted beyond a doubt, that the gray matter performs the most exalted functions of the brain, and that the white substance maintains a subordinate, though important relation. In muscular tissue, which performs very active functions, it is also found largely. In fact, the quantity of nitrogenous tissue seems to conform with the activity of the function displayed by the organ, from the most active down to the stable composition of bone; and even in the hard and bony tissues we find a difference in the distribution of nitrogen, for the teeth contain less than bone, and the enamel of the teeth is wholly devoid of it. A grand principle pervades the construction and development of the bodily tissues as well as the vegetable and inanimate world. Those tissues which must necessarily be hard and immobile for the proper performance of their duties, contain but a small proportion, and some none, of this ever treacherous nitrogen, but a larger quantity of the more firm and stable elements; while those which are required to perform active functions, and whose very existence depends on their active vital changes, possess this element in the largest proportion. Though sunlight is constantly pulling apart chemical elements of powerful affinities, which recombine within our bodies and give out force, yet this combination or oxidation is small when compared with those indirect chemical changes set up by the peculiarity of nitrogen compounds, called catalytic transformations. That is to say, certain nitrogenous substances have the power to induce chemical changes, even in oxy-hydro-carbon, as well as among themselves, merely by their presence. Thus, all the albuminoid matters of the food are converted in the stomach into a new substance called *albuminose*, by pepsin. The organic substances of the intestinal fluids excite a catalytic action by which starch is converted into sugar, and the casein of milk converts the sugar of milk into lactic acid. Such examples of catalytic transformations are abundant in the body. We also find such changes outside of the body. Yeast, with which the brewer induces chemical changes in his barley, and the baker in his dough; the vinegar plant which changes alcohol into acetic acid; all these contain nitrogen. Now, when we remember with what remarkable activity nitrogenous substances decompose, is it not easy to conceive that they, in thus falling from their unstable to a more stable position, communicate their shock or force to other neighboring substances, though more stable, and thus decompose them also?—their great activity compensating for their diminutive mass. For when starch is converted into sugar, through the agency of yeast, thence into alcohol, carbonic acid and water, the yeast itself is decomposed and the products of decomposition equal the elements which existed in the starch and yeast. They have only fallen from a higher to a lower scale. This same process is utilized in discharging a gun. The percussion cap contains a nitrogenous salt which decomposes with greater facility than the gunpowder; this explodes on the slightest mechanical touch of the hammer, and thus transmits its molecular motion to the powder. We thus see a reason why those vital processes which are carried on by the aid of external forces, as in vegetable life, for example, should not contain as much nitrogen as those which carry on functions by forces evolved, in a great measure, from within.

Nitrogen is not only an important factor in forwarding healthy vital processes, but it also possesses a weighty influence in the modification of different diseases. Its sudden chemical transformations are no less marked in pathological than in physiological aspects. Carpenter in his "Human Physiology" has shown how desirable a nitrogenized diet is for the development of brain force, and Liebig in his "Letters on Chemistry" writes about the favorable influence of azotized food on the disposition of persons.

In the incipient stage of pulmonary tuberculosis, and in certain conditions of gout, the intellectual faculties possess a brilliancy far exceeding the normal standard. In diseases of the lungs, depression of spirits is rarely, if ever, present, unless due to some abdominal complication. The pulse is full and bounding, in strange contradistinction to that of abdominal diseases, where it is small and thready.

Now, the blood in its ordinary circulation contains and conveys a certain amount of azotized matter, which, when accelerated in its flow, will bring in contact with the cerebral cells a larger amount of nitrogenized material than it would do at a slower rate, and we know that an accelerated pulse and increased temperature are almost pathognomonic of lung disease, especially in the early stages of pulmonary phthisis. In consequence of this excessive circulation over the normal, the blood will convey more nitrogen to the brain cells, and so stimulate and actually draw out of them that which exists there potentially; hence, in a large measure, follows the intellectual brightness of those who are about entering on the ill-fated pathway of consumption. Objections may be urged against our position as to the cause assigned for the mental vigor of those affected by pulmonary lesions; but in the case of the gouty, where the same power of intellectual vivacity and explosiveness exists, there can be little or no doubt that it is caused by the excess of nitrogen, with which the blood is highly charged.

Though the chemical changes produced through the agency of nitrogen are vast, and are especially largely present in the animal world, yet a distinctive feature marks its action from the action of oxygen. While oxygen can only produce chemical changes by its actual affinity and union with the different elements, and thus destroy a compound, nitrogen produces chemical changes in a reverse order. It is not by its chemical affinity that it produces chemical changes, but rather by its intense chemical hatred and disgust which it harbors against its partners, leaving its combination on the slightest disturbance, and in this manner annihilating the compound; and, of course, the great velocity which characterizes its action, and with which it flees from its companions, has a stampeding and deteriorating influence upon the more peaceable and stable hydrocarbon inhabitants residing in the immediate neighborhood.

In defining life, we saw that, if the reaction of the body is not equal to the action of the forces from without, then death must ensue, and what is true of the body as a whole is also true of its component parts. As long as the atoms of the body retain their peculiar motion, which we call life, so long do they remain in their unstable equilibrium; but when the outside forces overcôme and destroy this atomic or molecular vibration, then they fall from this into another but more stable state, thus resulting in interstitial death. This, we saw, holds remarkably true in the nitrogenous colloidal compounds. These we absorb as food, and they are transformed into tissue by the elective affinity of the preëxisting atoms, remain there until some chemical, thermal, or mechanical force destroys their unstable state, fall immediately to a lower but stable crystalloid condition, which is abundantly illustrated by the excretions, as urea, for example, and which, by their diffusive properties, are transported out of the body. It is highly necessary that this interstitial death should occur constantly, for these nitrogenous atoms or molecules, when they contribute to the process of life, are performing work, and can only remain until their force is expended, then leave, and be replaced by fresh ones.

This leads us to the important relation which nitrogenous food bears toward sustaining the process of life. Nitrogenous foods are those albuminous materials which supply the nutritive elements to the blood, and they enter into the composition of the essential tissues in the body, and, although the hydrocarbons are important as heat-producers principally, they nevertheless take an inferior rank.

Animal food, as well as vegetable, contains nitrogen as its principal element of nutrition, but the alimentary canal which extracts the nutriment from the former is far different from that which extracts it from the latter. Thus the carnivorous animal has a comparative simple digestive apparatus, takes in a small amount of food, utilizes nearly the whole, and passes but very little excrementitious material, while the herbivorous animal possesses an exceedingly complex and extensive alimentary canal, absorbs food in abundant quantities, and wastes a large amount in its excessive excretions. According to Prof. Voit, " the proportion which the solid excretions bear to the weight of the animal is, for a dog fed on meat, as 3 to 10,000; for man with mixed food, 5 to 10,000; and for the ox, as 60 to 10,000."

Vegetable food is rendered harder to digest than animal food from the fact that its albuminoid and hydrocarbonaceous substances are enclosed in a coating of cellulose, which is not the case with animal food, and so requires some time to be broken up by the digestive fluids; and for this reason it is often retained for four or five consecutive days, so as to allow sufficient time to extract its nutriment; while, on the other hand, the digestive organs of the carnivora and omnivora dissolve the animal food and extract its nutriment easily, and it traverses the whole intestinal tract within twenty-four hours.

Dr. Meyer gave a dog 1,000 parts of bread per day, and the excreta amounted to 70 parts of dry substances. He then replaced the albumen in the bread by an equivalent of meat, and the starch by an equivalent of fat, when the dry excrement amounted to only 20 parts of dry matter. To show that it was the starch, and not the fat, which caused the excessive excrement, he gave 377 parts of pure flesh-meat with 522 parts of starch reduced to a pulp, which yielded 68 parts of excrement—nearly as much as when the starch and albumen were given in the form of bread. This, then, illustrates very clearly that starch is not a proper food for carnivora and human beings, and though it is an elementary food for herbivora, which have an apparatus especially constructed for the digestion of crude vegetable food, it must nevertheless be first transformed by them into their own tissues before it can be utilized by man to any superior advantage. Bischoff holds, and very properly too, that the starch must first be changed into sugar, or some other hydrocarbon, before it is fitted for absorption by the human economy, and there is not enough time given to effect this change, but it is forced away by the peristaltic action of the bowels. No doubt that, if the starchy chyme were allowed to remain in the intestine, its chemical transformation would be effected. From this it will be seen that fat holds a more important rank as a dietetic agent than starch; in fact it is a most valuable auxiliary in the digestion of albuminous foods.

This fact should counteract and in a great measure correct the erroneous mode of preparing the essence of beef which is in vogue among the medical profession. The physician, in his directions to prepare it, takes especial pains to impress upon the mind of the nurse the importance of divesting the meat of all fat; and indeed this opinion is not a stray one, but derived from text-books that rank foremost as authority.

The following is taken from the observations of Dr. Hoffman, as detailed by Prof. Voit, and has a particular bearing on our topic: "Imperfect digestion and voluminous excretion are unavoidable. If a man consumes in a day 1,000 parts of potatoes, 207 lentils, 40 bread and beer, he takes in 14.7 of nitrogen. Of this latter he gives out 7 by the kidneys and 6.9 in 116 of dry excreta. The dry excreta contain 24 per cent. of the dry food, and 47 per cent. of the nitrogen. But, when he takes in animal food, the same amount of azote and of starch in respiratory equivalent of fat, *i. e.*, 390 parts of meat and 126 fat, he eliminates daily 28.3 parts solid matter. Consequently, though the amount of albumen in the two cases was the same, still twice as much of it was absorbed by the intestine from the ration of meat as from that of vegetables." Dr. Hoffman remarked still further that "bread, potatoes, rice, maize, etc., taken in any quantity whatever, can scarcely support the life of man or of carnivorous animals, communicating to them no bodily strength. Too large a proportion of their nutritive elements is eliminated in the excretions. Still, with the addition of a small quantity of albumen, whether animal or vegetable, they may suffice. They are poor in albuminates, but rich in starch. Even herbivorous animals often take in an excess of food, so as to get the requisite amount of albumen."

Man almost everywhere recognizes this principle and takes advantage of it by adding a nitrogenous substance to his too starchy food, in this manner enhancing its nutritive qualities. The German almost instinctively asks for a piece of cheese when he sips his beer, and, according to Salvator Thomassi, "the farmers of the rice fields in Italy, who enjoy liberal fare, reach an advanced age, while the day-laborers, who live on rice, succumb prematurely to disease caused by exhaustion." Buckle attributes the disintegration of the Irish people to the fact that they subsist chiefly on starchy food.

Prof. Voit says that "on this subject we have the valuable researches of William Stark, dating from 1789. He tried experiments upon himself as to the relative value of different kinds of food. For 42 consecutive days he lived on 556 to 849 parts of bread and 900 to 1,800 water per day. Meanwhile he lost 17 pounds weight. Then he took 736 to 962 of bread, 113 to 226 of sugar and 900 to 1,300 water, and in 28 days lost 3 pounds. But he gained with 849 bread, 1,800 milk, and 1,300 water. Hence it will be seen that prison fare of bread and water is justly to be regarded as a punishment."

Now, we have partly considered the relation which nitrogen bears to individual life, and found that it is the main life-giving element, and that without it the bodily tissues could not maintain their conditions for a moment; but on considering this subject further we also find that it has an important influence on social life. This might have been expected, for social is composed of individual life, and whatever affects the individual must naturally exert an influence on society.

In discussing the influence of heat on the process of evaporation, we found it an important factor, and that by its influence the diffusion of the crystalloids through the colloids of the body was materially facilitated or hindered. Therefore it is evident that evaporation will take on a more rapid and decided action in a warm and dry atmosphere than in one which is moist and warm; for evaporation always takes place from the denser to the rarer medium, hence in proportion to the dryness of the atmosphere, other things equal, is the evaporation. And it is an undeniable fact that in proportion to the activity displayed by the different parts of the body in the distribution of matter—in furnishing nutriment and transporting the refuse—so is the mental and physical energy displayed by the body as a whole. The effect of slow evaporation on the body is the retention of a great portion of the excretions in the skin and tissues, which would otherwise be exhaled, thus changing the complexion to a great extent. This is very forcibly illustrated in jaundice (although in such a case the cause is chiefly internal), where an extraordinary quantity of bile is thrown out into the general circulation, overbalancing the emunctories, and thus giving that peculiar yellow complexion which is so pathognomonic of that disease. Weak and delicate persons feel their condition greatly improved in a pure, warm atmosphere, and worse when the air is surcharged with water, which depresses their already enfeebled evaporation; and such persons are commonly enervated by a residence in moist and low regions, but invigorated by residing in high and dry ones. The cause of their improvement is manifest.

Now, then, in practical application of our subject to social life we ought to find a greater activity and energy displayed by those people of hot and dry regions, as well as a fairer complexion, than among those of warm and moist climates; and this physiological inference is clearly deducible from the facts of history. In referring to the rain map of the world we will see an almost continuous area extending across North Africa, Arabia, Persia, Thibet, and Mongolia, called the "rainless district," in which Egypt, the earliest recorded civilization on the globe, grew and flourished, as well as the Assyrian, Phœnician, and Babylonian civilizations. And it is also a fact that from within the borders of this district have come all the conquering races of the Old World. The common trait that characterized these nations was their almost indomitable energy, displayed in the subjugation of other and less powerful nations. Nor is this all, but, on turning to the "rainless district" of the Western Hemisphere, we find that it extends through the Mexican, Central American and Peruvian regions precisely where the primitive civilizations developed in the New World.

We do not wish to impute the superiority of these nations solely to the quantity of warmth and dryness which facilitated the 'evaporation and transmission of excretions out of the body, and thereby increased their activity, for there were other influences at work; but we believe this to be one of the principal causes, and what we wish to verify is this, that, if other things are equal, energy will be in proportion to the rapidity of the vital processes, as influenced by warmth and dryness.

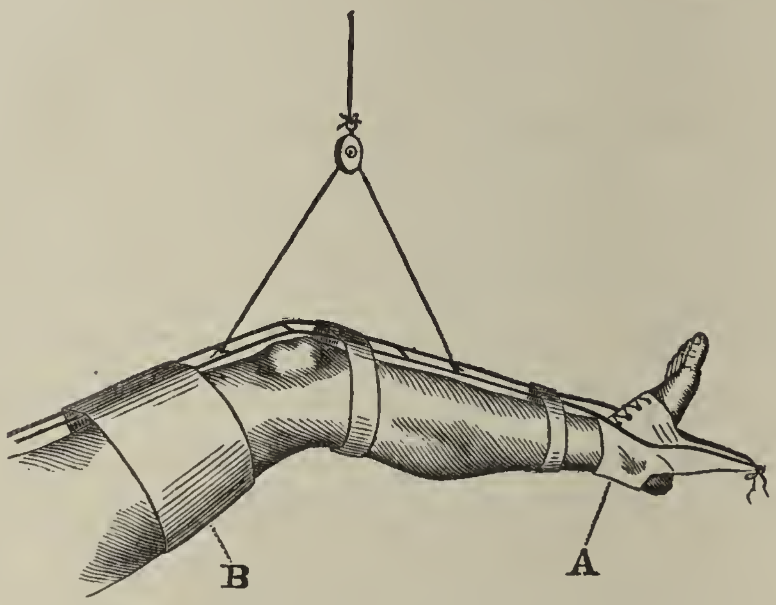
Proof in regard to the correspondence of the complexion of human beings with the heat and moisture of the regions which they inhabit is not less abundant. Livingstone, in his "Missionary Travels," says of the varieties of negroes in Africa, that "heat alone does not produce the blackness of the skin, but heat with moisture seems to insure the deepest hue;" and Schweinfurth, in his "Heart of Africa," also speaks of the relative blackness of those tribes living on the low alluvial plains, and contrasts them with the "less swarthy and more robust natives who inhabit the rocky hills of the interior." This difference of color in the same race, between those subject to a dry and moist heat, has a special bearing on our question, in that it suggests the reason why the whiter races are the most energetic and also the most dominant.

ART. III.—*On a New Apparatus for Fractures of the Leg.*

By OSCAR J. COSKERY, Professor of Surgery, College of Physicians and Surgeons, Baltimore, Md.

WHILE fully satisfied of the fact that no apparatus other than the starch or plaster-of-Paris bandage is required in the great majority of fractures of the leg, still there are certain injuries in which these applications will not suffice.

In a simple fracture of both bones of the leg, with some comminution, I have applied the starch-bandage, and had the patient walking on crutches on the fifth day; still, for badly comminuted fractures near either joint, and more especially for compound comminuted fractures and for resections—in a word, wherever *extension* of some degree is required—the starch or plaster is useless. It is for the latter variety of fracture above spoken of, and preëminently for Pott's fracture, that the present instrument was devised.



As will be seen by the accompanying wood-cut, the splint consists in another adaptation of the wire, first used by Dr. N. R. Smith; but the principle upon which it acts will not permit of its application to the thigh.

The figure represents the splint as applied before the bandage, which encircles all, has been used, and may be called the *permanent* apparatus. As shown, the wires, moderately strong (Nos. 7 to 10 are the best sizes), should extend from the upper portion of the middle third of the thigh to nine inches below the sole of the foot. From about one inch above the malleoli to their upper extremity they should be parallel, three inches apart, and bent in an easy position opposite the knee. One inch above the malleoli they should commence to bulge, and a little above the sole of the foot, which should be the widest part of the splint, the separation must be from five to six inches. The wires then slope gradually to three inches in width, and are then securely fastened by a strong end-piece.

Along the whole course of the splint the wires are fastened together by cross-pieces of wire.

The application is as follows: the splint, measured upon the sound limb, is first bent opposite the knee, and the gaiter is applied to the foot of the injured side. The injured member is then held in an easy position by an assistant, the patient's thigh being held at an angle of near 60° to the trunk, with the knee bent. The foot is then carried through the bulge between the wires, and a piece of adhesive plaster, *B*, from six to eight inches wide, is made to encircle both thigh and splint. (The other two bands shown in the figure are merely suspensory.) The gaiter, *A*, is then attached to the end-piece by means of tapes, as shown in the cut. By making traction upon the tapes passed over the end-piece, and fastened when a sufficient amount of extension is gotten, the splint is then forced upward, and this movement is counteracted by the adhesive plaster on the thigh, the gaiter acting as the *extension*, the plaster as the *counter-extension*. The toes can be elevated or depressed by loosening or tightening the lacing of the gaiter at its lower portion. A common roller is then carried over all, from one end of the splint to the other. This bandage can be removed at every dressing, but the apparatus, as shown in the drawing, remains until the cure is effected, the surgeon increasing or relaxing extension as may be required.

I have never had an opportunity to use this apparatus in any of the conditions for which it is proposed except in two cases, the short notes of which are as follows:

Joseph V., a Pole, aged thirty-nine years, was admitted into St. Joseph's Hospital in this city, on May 18, 1872, having an hour before admission received a comminuted fracture of the right thigh, together with a simple fracture of both bones of both legs. The apparatus above spoken of was applied upon the side of the fractured thigh, the latter being supported by sand-bags. The leg was taken out of the splint in the sixth week, when it was found that the point of fracture could only be obscurely made out.

J. S., aged 36 years, German, had a heavy steam-radiator fall upon the lower portion of the left leg. There was no opening down to the fracture; but tearing of the skin to such an extent as to necessitate frequent dressing. The diagnosis was comminuted fracture of lower end of leg-bones, probably extending into joint. In this case the apparatus was left on for seven weeks and the result was good.

I claim nothing from these two cases, as, of course, they are too few to form even the vaguest opinion upon. Still, I would beg of my professional brethren a trial of this very inexpensive and easily applied apparatus in any such cases as, in their judgment, may require the patient to remain in bed, and when extension is necessary. I believe, however, that it will be most useful in Pott's fracture, gun-shot fractures, and compound fractures near the joints.

Clinical Records from Private and Hospital Practice.

I.—*Ligation of the Common, External, and Internal Carotid Arteries for Gunshot Injury. Death.* By William A. Byrd, M. D., Quincy, Illinois.

On the night of May 29, 1876, William H. Dallas, of the Quincy police force, was detailed, with another officer, to watch some stolen goods that were secreted under a stable in the north part of the city, so that when the thieves should come after the goods they might be captured.

About two o'clock in the morning, just after the moon had set, three men approached the stable, when they were commanded to throw up their arms and surrender by Dallas, who at the same time commenced firing upon them. The thieves returned the fire, three shots taking effect upon Dallas, who was leaning out of an upstairs window. One shot struck upon the right side of the chin, an inch below the commissure of the lips, only breaking the skin; another on the right lower lip, near the commissure, passing through the lip; the third struck the base of the jaw on the left side, about an inch below the left labial commissure, shattering the jaw into a great many small fragments. The ball split into three pieces; the largest fragment, being sharp-pointed and wedge-shaped, passed backward, splitting the external carotid artery, with the point impinging upon and entering the internal left carotid a half-inch above the division of the left common carotid.

After he was shot he walked from the stable to the house of Mr. Nathaniel Pease (a distance of a hundred or a hundred and fifty feet), who sent immediately for a practitioner who lived near. He came, and found the wounded man bleeding profusely: he says that there must have been at least three quarts of blood lost while he was there. He applied compresses over the wound, and bandages over them, passed over the head to retain them in position. After a while the man became very faint, and the hæmorrhage ceased. The chief of police called on me at 7 A. M., May 30, and requested me to go and see the wounded man, it being then some five hours since he had received the injury. When I arrived at Mr. Pease's, I found Dallas lying upon a bed in the hall, with evidences of great hæmorrhage. As he was very desirous to be moved home, some seven or eight blocks distant, I made a sufficiently careful examination to satisfy me that he could be moved with safety. I then supposed the hæmorrhage had come from the cutting in two of the facial artery, and thought I had detected the ball about an inch from its point of entrance; any way I decided to take him home, and then, under ether, explore more fully his injury. After he was gotten home and under the influence of the ether, I enlarged the hole through which the ball entered, and found that which I had supposed was the ball to be only a fragment, which I removed along with the other piece of the ball and a great many fragments of bone not larger than bits of cracked hominy. Passing the index finger of my left hand deep down in the wound, I detected the largest piece of the ball, and passed down Gross's ear curette to catch it between the scoop and my finger. Upon loosening the ball and drawing it up, there was a perfect deluge of blood, escaping for an instant only, as I pressed my finger down into the holes in the arteries and immediately arrested all hæmorrhage, and sent for assistance.

It being the time when physicians are generally making their morning calls, I was an hour controlling the hæmorrhage with my finger before assistance arrived. About 9 A. M., Drs.

Wilson, Edson, and Hess, arrived, when, my right hand being free, I made an incision through the skin and platysma myoides muscle, along the front of the sterno-cleido-mastoid muscle, and across along the base of the jaw to the point of entrance of the bullet. I then dissected down with the handle of the scalpel until I arrived at the sheath of the vessels. At this time Dr. Curtis arrived, and assisted me to open the sheath and pass and tie the ligatures. One ligature was passed around the common carotid just below the bifurcation. Some of the medical gentlemen here suggested that it would not be likely that any recurrent circulation would set in from the internal and external carotids, but, upon taking my finger out of the openings in them, the blood immediately welled up. I then ligated both of them just above their points of injury. The jugular vein and pneumogastric nerve were exposed, but not injured, during the operation. About the time the common carotid was ligated, the breathing became difficult, and, although a mulatto, the patient became much paler. Restorative means were resorted to, but to no avail, as about twenty minutes after the operation was completed he died. The ball was a conical pistol-ball, three-eighths of an inch in diameter at the base, with the sides shaved off so as to make of it a sharp wedge. A thin piece of lead, shaved down from the side of the ball, nearly a half-inch in diameter, stood out at right angles to it, and was attached to it at the base.

The ball, when it first struck the external carotid and passed entirely through it, with the exception of the base, which was prevented by this flange at right angles to it, and cut a slit into the internal carotid, found the arteries full and tense, and of course there followed great hæmorrhage, which lasted until the tension decreased, and the artery closed down around the bullet, and a clot formed on either side of the bullet. This clot was disturbed, and the holes in the arteries were opened, when I raised the bullet, when of course there was a recurrence of the hæmorrhage. The bullet might have been left, and the hæmorrhage would not have set in so soon; but the tissues all around were contused and infiltrated with blood, with very minute pieces of bone scattered through them, which would have surely caused suppuration and a loosening of the bullet and clots, with secondary hæmorrhage.

In the "Medical and Surgical History of the War of the Rebellion," from page 345 to page 367, surgical volume, are reported one hundred and thirty-nine cases of gunshot fracture of the facial bones, with the following results—page 367: "Of the cases above enumerated, fifty-seven were fatal. . . . It will be noticed that secondary hæmorrhage supervened in seventy-six cases, and that the common carotid was ligated in no less than thirteen cases, five of which had a favorable issue. . . . It would appear that of the whole number, impartially selected, seven were fractures of both the upper and lower jaws. The upper maxilla was principally involved in twenty-two cases; the lower in eighty cases; the buccal cavity and tongue in three cases. In twenty-seven cases the destruction of the nasal, lachryneal, turbinate, or malar bones, is particularly noted."

In the same work, page 396, is: "The results of ligation of the common carotid for gunshot injuries of the face were ascertained in fifty-three of the fifty-four cases reported. There were fifteen recoveries and thirty-eight deaths (*or* 71.7 *per cent.*). This mortality rate is larger, of course, than shown by the tabular statements of Dr. George Norris and others, for ligation of the carotid for all causes. . . . The period intervening between the date of injury and the date of operation is known in forty-eight of the fifty-four cases cited, giving an average of eighteen days"—which result gives but little hope for waiting before ligating where there is injury of the carotid, as secondary hæmorrhage is almost certain, and the dangers from that source are incomparably greater in private practice where aid may not be obtained before the low has proved fatal.

"There were six cases reported of ligations of the external arotid, in addition to the two already mentioned in conjunc-ion with ligations of the common trunk. Four of the six nay be regarded as successful, in the sense of recovery from he operation."

Page 397: "No instances of ligations of the *internal* caro-id for gunshot injuries of the head or face were reported."

Thus it will be seen that injuries requiring ligation of the common, external, and internal carotid, at one time, must be rare indeed, when none were reported from all the lesions that occurred during the late war.

Drs. Fowler and Bassett arrived before the operation was completed, to whom, and the gentleman named above, I am under obligations.

I have but one regret in this case, beyond the death of the patient, and that is that I did not see him before the loss of blood had gone so far. It seems to me that if the hole made by the ball entering had been enlarged, a finger might have been passed down to the bleeding vessels, and the hæmorrhage stopped until further help could have arrived, as easily in the beginning as it was done after I saw him. I am sure that he did not lose a pint of blood from the time I first saw him until the operation was completed.

At best the operation is a fearful one to undertake, and very difficult to perform, with torn tissue, stained with infiltrated blood, and displaced by swelling.

The most appropriate closing for this paper is another quotation from the work spoken of above, where the author is speaking of injuries to other vessels, but the remarks will apply equally as well to all large vessels. Page 650: "It is surely possible to reduce the great disparity in the mortality of ligations for traumatic causes, as compared with the results of operations for aneurism. I rejoice to find myself so fully in accord with my friend Dr. Lidell on this subject, and heartily applaud his vigorous invectives against temporization with compresses and styptics when serious bleeding is going on. 'Never be afraid to look your enemy in the face' is as good advice for the surgeon as for the soldier."

Notes of Hospital Practice.

ROOSEVELT HOSPITAL.

Mechanical Influence of an Aneurism causing Catarrhal Pneumonia.—A case recently died in hospital which was of decided interest, inasmuch as it added one more to that infrequent class which was described by Dr. A. L. Loomis, in a clinical lecture reported in the JOURNAL for March, 1876, page 269. The history of the case was briefly as follows: A Cuban sailor was admitted, suffering from marked dyspnœa, but on examining the chest the bronchial and tracheal rales obscured all auscultatory signs. He said, however, that not long before he was attacked with dyspnœa, which continued up to his admission. On the following day the patient died. At the *post mortem* the left lung was found collapsed, and, pressing upon the left bronchus, was noticed the protrusion of a sacculated aneurism. A large aneurism involved the aorta, and this sac communicated with it by an orifice three-quarters of an inch in diameter. At the point of pressure on the bronchus ulceration existed. This case is of special value in connection with the case referred to by Dr. Loomis, inasmuch as it presented the first pathological result of catarrhal pneumonia, viz., collapse of the lung due to closure of the bronchus. Had the patient lived, the succeeding stage, or, in other words, consolidation and expansion, would have resulted, and then a case identical with Dr. Loomis's would have existed.

Diphtheria in the Adult Tracheotomy.—A man was taken into hospital, suffering from diphtheria. He appeared to be moribund, and shortly after admission respiration nearly ceased. It was considered advisable, however, as a last resort, to practise tracheotomy. This operation was exceedingly happy in its results, inasmuch as the patient returned to consciousness, and was completely relieved of his dyspnœa.

He said that he felt quite comfortable, and was very thankful that the operation had been performed. About six hours afterward he sank and died of exhaustion. There was no return of the dyspnœa. At the autopsy false membrane was found at the base of the tongue and in the larynx. There were also evidences of phthisis and pleurisy.

Myelitis a Sequel of Diarrhœa.—A woman suffered a severe attack of diarrhœa about a year ago, and shortly after recovering from it noticed a sensation of weakness in her limbs. There was no pain, however, nor the sensation of any constricting bands around the body.

The paralysis increased, but only a short time before death did she complain of any anæsthesia. At the autopsy the entire cord in the dorsal region was found to be softened.

Dysentery.—Some cases of dysentery exist at the present time in the medical wards. The treatment that proves most efficacious consists in the administration of powders containing one-fourth of a grain of opium and ten grains of tannin.

BELLEVUE HOSPITAL.

Tumor of Foot; Removal.—A man aged seventy-four entered hospital with a tumor on the inner aspect of the foot, which at first seemed to indicate amputation at the ankle-joint. The growth extended from the ball of the great toe posteriorly to the inner malleolus, and filled up the whole concavity in that region. The skin covering the mass was in part normal, and in part thick and corrugated.

The history obtained from the patient was that the tumor began to grow four years ago, but for the first two years this growth was slow; at the end of that time the patient received a kick in the neighborhood of this tumor, and for the following two years the advancement was rapid. Originally pain was present, but not a marked symptom; latterly, however, the pain was very severe.

It was considered advisable to try and remove the mass, and for this purpose the necessary incisions were made to expose the whole of the tumor. After this part of the operation the growth was readily removed by the finger. On section it was found that it was made up of two distinct portions, each being of decided fibrous formation, though malignant in nature.

Since the operation the patient has continued to improve, without any tendency to recurrence.

MOUNT SINAI HOSPITAL.

Empyema; Treatment.—The treatment of empyema, according to the experience in this hospital, is a subject that requires a considerable amount of patience, both on the part of the physician and the patient. It can, however, by proper attention to some mechanical facts, be simplified a great deal, and at the same time be deprived of many of its unpleasant features. Reference is here made only to empyema in adults; for the children and young persons the same course of treatment is not always indicated. Before passing on to the requisite procedures it may be well to say that the indication of the treatment consists in removing all of the pus from the cavity, and this can be done in only one way, and that is by substituting it with either warm water or warm medicated solutions.

Aspiration is defective, inasmuch as it only removes a part of the pus, and after a certain point has been reached much pain is complained of by the patient.

In regard to the means for the thorough washing out of the pleura, it is the wisest plan, for different reasons, to make two openings, one on the anterior part of the chest, and the other lateral and slightly posterior, but not sufficiently so to require the patient to change his position while resting on the back. After making the posterior opening, it is necessary to apply something to the wound to prevent soiling the bed with the discharges, and this is best done by applying pieces of oil-silk to the skin by means of collodion, something after the method described and illustrated in the JOURNAL, May, 1876, page 503, for the treatment of compound fractures. When this stage of the treatment has been reached all that is necessary is to carry in the fluid at the upper opening, and continue it till all trace of pus has disappeared in the discharge from the lower one.

In regard to the fluid to be employed, it is best to use warm water of a temperature of one hundred degrees till the chest is thoroughly washed out, and then a very dilute solution of salicylic acid, carbolic acid, or iodine. As was suggested previously, this method removes all trace of pus from the chest, and leaves in its place a desirably medicated fluid of the same temperature as the body. The operation of washing out can thus be performed without pain or discomfort of any kind to the patient, inasmuch as the oil-silk at the lower opening conducts the discharges into a proper receptacle. It sometimes happens that, as the process of cure is being established, a septum is formed in the pleura, which converts the single cavity into two. But by the method of counter-opening it will be found that as a rule each cavity will have an opening. The only additional annoyance in the treatment will be the necessity of carrying a catheter as far as possible into the cavity, so as to allow the entering fluid to have a free circulation within. In some cases, where a counter-opening may seem to be contra-indicated, it becomes necessary to carry a gum-elastic catheter in for its full length, and even then all trace of pus may not be removed. It has been found by experiment that, when a double canula is introduced for the entrance and exit of the fluid, a current is caused between the two openings of the canula, and only an ounce or two of pus is removed; and, as before suggested, the next best plan to that of counter-openings is to make use of a long catheter and allow discharge to take place at the opening made in the chest.

A case of empyema has recently been treated in this hospital, in which a dilute solution of iodine was used. Marked improvement took place, but one day the patient died of symptoms of apoplexy. At the autopsy an embolism was discovered, which extended down into the internal carotid artery.

Sacculated Bladder; Failure to detect Calculi.—A patient entered hospital suffering from stricture. He said that he first noticed difficulty with micturition fifteen years ago, and two years afterward the operation of external perineal urethrotomy had been performed on him in London. From that time till the present he has suffered from cystitis and stricture of the urethra.

On one occasion he passed a small stone from the meatus, but on introducing a sound no other evidences of calculi could be discovered.

Eventually the patient died of exhaustion, and at the *post mortem* a diverticulum to the bladder was found, in which there were several small calculi. The communication between the sac and the bladder resembled in appearance a button-hole, and it was obvious that it would have been nearly impossible to cause a sound to enter the opening so as to touch the calculi contained in the sac.

Diagnosis between Leucorrhœa and Gonorrhœa.—A girl, eight years of age, was taken to the hospital for examination under the supposition that she had gonorrhœa.

The presence of the discharge led the friends to closely interrogate the child, and the conclusion they arrived at was that the patient had received violence from a man, and had contracted an attack of gonorrhœa from him. When the child was examined the hymen was found intact, but, on inspecting the rectum, numerous small worms were discovered, which in all probability were the exciting cause of the existing leucorrhœa.

Correspondence.

The Treatment of Ununited Fractures. Prof. Frank H. Hamilton in reply to Dr. Byrd.

Editor of New York Medical Journal.

Dear Sir: The May number of your Journal contains an interesting paper on the "Treatment of Ununited Fractures by the Wire Ligature," from the pen of Dr. Byrd, of Quincy, Ill. In this paper a quotation is made from my treatise on the "Principles and Practice of Surgery," in which, after stating in a general way what he supposed my views to be, he adds: "But these are his words, p. 388, *et seq.:* 'Excision of a portion of the shaft of one or the other of these bones, for necrosis or other diseases, is often required; but in the case of one bone of the forearm, from any cause whatever, it must be borne in mind that excision of even a small portion of the entire diameter of the bone is pretty certain to result in non-union. It will be far better, therefore, to allow the fragments to remain, and to thus offer a chance for a deformed union, than to take the risk of no union at all,' " etc.

The quotation is correct, except that, after the words "but in the case of," the words "a comminuted fracture of" are left out. If the reader will supply these omitted words in their proper place, he will see that the meaning of the sentence is greatly changed. What I have attempted to teach is, that if one of the bones of the forearm is *comminuted* by the passage of a ball through it, or "from any cause whatever," it will be better to permit these fragments, when they involve the entire diameter of the bone, and when they are not too much loosened, to remain, and thus to secure a somewhat deformed union, than to remove them, and render it probable that there will be no union at all.

I have no doubt the omission was accidental, but the restoration of the omitted words will somewhat diminish the force of the criticism which follows:

"To my mind," says Dr. Byrd, "the time is past when surgeons can, with safety, allow deformities that may be remedied to ensue from lesions they are called upon to treat. It is far better that a surgeon, when called to treat conditions as spoken of above, should make a free resection from the continuity of a sound bone, if necessary to secure parallelism," etc.

In support of his views, Dr. Byrd cites a case of his own—a case of ununited Colles fracture, of about five years' standing, in which he made resection of a portion of the shaft of the ulna with a satisfactory result.

I see no objection to his procedure in this case, except that I think he took some risk of a non-union; which risk would not have been incurred if he had merely removed the lower end of the ulna, as he correctly states was done by myself in two cases of recent compound fracture of the radius near the wrist-joint. But his admirable result by no means warrants the conclusion at which he has arrived: "And now, if I meet with any cases of fracture, of either of the bones of the forearm, having anything like a sufficient loss of bone to cause non-union, or serious deformity, I shall exsect its fellow *in its continuity, and not the end*, and wire the ends together."

I am confident that if, in the case of a recent gunshot fracture of the radius in its middle, for example, he were to add to the great injury already received an incision sufficient to expose the ulna, and then were to practise resection of its shaft, and wire the bones together, he would have reason to regret his practice. Bones sawn off and wired together pretty often fail to unite, even under the most favorable circumstances; but in the case supposed, and in many other similar cases, the violent inflammation which must ensue, and the impossibility of employing splints, or other means of confinement, would probably prevent bony union in *both* bones, or, if union occurred, the deformity would be greater than if the resection had not been practised.

I agree with the doctor that "the time is past when surgeons can with safety allow deformities, that may be remedied, to ensue from lesions they are called upon to treat." Indeed, I think there never was a time in which they could do this with safety to their reputations; but the serious question is, Will the proposal made by Dr. Byrd provide a safe means of preventing the deformity? I believe it will not.

If Dr. Byrd finds a case of old ununited fracture of the radius, in which nothing but resection will effect union, he may properly consider whether it will not be advisable to shorten the ulna by resection of a portion of its shaft; but he must not even then be too sanguine of success.

It will be noticed, however, that when I proposed to leave the fragments, in the case of a comminuted fracture of one of the bones, to unite with some deformity, rather than remove them and get no union, I did not suppose the case, in which portions of the entire shaft were gone, sufficient to leave "anything like a sufficient loss of bone to cause non-union;" and precisely such cases are very rare. The fragments, in cases of comminution, are generally broken very obliquely, and they lie over each other, and the reason why they do not unite is not usually because they do not touch each other, but because of the intense inflammation and suppuration which ensue. If fragments are completely removed, including the entire thickness of the shaft, in most cases they have been removed by the surgeon, and this is what I have deprecated. Better, I say, leave them to unite with some deformity than to remove them and incur the risk of no union at all.

But even in the case supposed by Dr. Byrd, where the fragments do not touch, owing to a removal of portions of the entire thickness of the shaft, the surgeon will do wisely to reserve his resection of the opposite bone, which now furnishes a splint and support to the limb, for a future period.

Dr. Byrd quotes me as saying, also, that in the case of the leg, where the tibia is the bone to be made to unite, the fibula being sound, resection is inadmissible, unless the portion resected includes only that which overlaps, in reference to which practice he says that if he was "called to treat a fractured tibia" (I presume this means a recent fracture), with a loss of enough of the tibia to occasion a gap, he would at once resect a portion of the fibula, etc. But a reference to my treatise, from which he makes this second quotation, will show that I was here speaking only of examples of *ununited* fractures, that is, of old, not recent, fractures, ununited. Whether my opinion in *this* class of cases, involving the tibia, is sound, is not actually brought in question by Dr. Byrd, and I shall not, therefore, discuss it.

It will be seen, then, that, when I am speaking of *comminuted fracture* of the forearm, I am quoted as speaking of separation of the fragments "from any cause whatever"—the words "comminuted fracture" being omitted—and when, in another place, I am speaking of examples of old ununited fractures, under the heading of Delayed or Non-Union of Fractures, I am quoted as holding opinions, in reference to the treatment of *recent* fractures, which he does not. Whether I would resect the fibula under the circumstances supposed by him, does not appear from anything I have hitherto written.

As to the case actually supposed by Dr. Byrd (a recent fracture), I must be permitted to say that it is not probable that he will ever see it. An injury of the tibia of such severity as to cause an immediate loss of a portion of the entire thickness of the shaft of the bone, while at the same time the fibula is not broken, has never come under my notice, and seems to me a very improbable event.

If, however, such an accident were to occur, and the anterior tibial artery were to escape, and if for other reasons an amputation did not at once become necessary, the surgeon might very properly consider whether it would be prudent to deprive the limb of its remaining support—the fibula—and thus render the employment of splints absolutely necessary, even after wiring the ends of the bones together.

But, if the surgeon were to conclude to shorten the fibula, it would be far better to *break* it than to attempt a formal resection. If broken, the ends would pass each other, and be quite as likely to unite as if riveted and wired together. For it must be noticed that, if the resected ends of the fibula are not wired together, they will be almost certain to fall off from each other, while, if broken only, they are much more likely to remain in contact. The surgeon who adopted Dr. Byrd's suggestion, therefore, must, if he expects the fibula to unite, also wire both the tibia and the fibula. In every point of view it would be better to *break* the fibula.

Moreover, it is not absolutely certain, if the fibula remained firm, and the space between the ends of the broken tibia were not very great, that sufficient bony material would be deposited between the ends of the fragments and between the two bones to give the requisite firmness and solidity to the limb. This happens pretty often after the removal of sequestræ, constituting large portions of the tibia, and, if the intermediate space were small, it might possibly happen in the case of a recent comminuted fracture.

It was not my intention when I began to write to do more than call attention to Dr. Byrd's unintentional misquotation of myself; but I have been led to make some additional criticisms upon what appeared to me to be erroneous teaching, and which would be all the more dangerous because the errors are taught by one whose accomplishments as a surgeon are so well known, and whose opinions are justly respected.

FRANK H. HAMILTON, M. D.

A Pleasant Solution of Sulphate of Quinine.

EDITOR NEW YORK MEDICAL JOURNAL:

IN many cases we wish to prescribe sulphate quinine, and to get a solution clear from turbidity is a *desideratum*. With aromatic sulphuric acid we get a passable solution, but the acid is often objectionable, if not absolutely contraindicated.

In practice, I find the spiritus etheris dulcis to be all that is desired. One ounce of it will dissolve about two drachms of quinine, giving a transparent solution. I am not aware that this solvent has been recommended. To those who have not used it, a trial will, I believe, be a success most agreeable to both patient and physician.

Isaac Smith, Jr., M. D.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 24, 1876.

Dr. C. K. Briddon, President.

Rupture of the Bladder.—Dr. Erskine Mason presented a specimen of rupture of the bladder, with the following history: A man, aged thirty-two, entered Bellevue Hospital on May 13th, stating that three days before he had been arrested for drunkenness and lodged in a station-house. Shortly afterward he complained of retention of urine, and asked for relief, but none was afforded him. He was taken to the Tombs on the following day, and while there his urine was twice drawn with a catheter. He entered Bellevue Hospital May 13th, at 2 p. m, and at 2.30 p. m. was seen by Dr. Mason. The patient at that time was rational, but very much prostrated. On examining the abdomen the upper part was tympanitic, but the lower portion gave evidences of fluid. The scrotum was discolored, and looked as if it had received an injury. The patient did not suffer much from pain, but was unable to pass his water. The catheter was introduced with ease, and about twenty ounces of urine, untinged with blood, drawn off. After removing the urine there were still the evidences of fluid in the lower part of the abdomen, and, on passing the finger into the rectum, the fluid seemed to be posterior to the prostate, and to the left. The diagnosis made at that time by Dr. Mason was rupture either of the bladder or of the urethra. For either condition it was considered advisable to perform perineal section. On making the incision through the neck of the bladder, a rent was discovered on the posterior surface, through which a catheter was passed, and ten ounces of fluid taken away. The patient died on the following day, being twelve hours after the operation, and four days after having received the injury. The autopsy revealed the presence of peritonitis, with adhesion of the intestines. The bladder was found to have a rent on the posterior surface, with its edges everted and swollen, and apparently in a sloughing condition. The rent extended upward for an inch and a half. Dr. Mason said that the above case was the fourth one of rupture of the bladder which he had operated on since 1871. Of these four cases two recovered and two died. The operation of perineal section was first performed for rupture of the bladder by Dr. W. J. Walker, of Boston, in 1845. It was performed twenty-four hours after the injury, and resulted successfully. Dr. Willard Parker performed it on a patient a few hours after the injury. The patient recovered. Dr. R. F. Weir operated on a hopeless case, in which there was a fracture of the pelvis. The patient died. Dr. Mason said that he operated on his first case three days after the injury; on his second case, a few hours after, both of them having recovered. The third case was operated on twenty days after the rupture, the patient dying four days after the operation.

Of seven cases operated on, which have been reported, four recovered, and of seventy-eight cases, in which nothing was done, only five recoveries took place.

Abortion shortly after Conception.—Dr. Mary Putnam Jacobi presented a minute specimen which, upon examination, proved to be a fœtus at a very early stage of development. The patient from whom this specimen came was apparently sterile, and menstruated regularly, and frequently passed clots. One of these clots proved to be the specimen presented by Dr. Jacobi. In all probability the patient had for an indefinite time been having these abortions, and, from the small size of the embryos, they escaped detection.

Tracheotomy in Diphtheria.—Dr. Leale presented specimens of diphtheritic membrane which he had removed from a patient under the following circumstances: A child, two years and a half old, was attacked with diphtheria, which invaded the larynx and trachia, causing severe asphyxia and cyanosis. Tracheotomy was performed on the third day; but for an hour and a half it was impossible to introduce a tube, on account of the amount of membrane in the trachea. This was eventually removed, however, by means of the elbow-forceps. Three days after the operation the tube was removed, and in three weeks the patient had completely recovered. Dr. Putnam Jacobi was of the opinion that the above case was the earliest successful case on record. Dr. Beverly Robinson said that recoveries had been reported at one year of age. Dr. Mason said there were two points that occurred to him in hearing Dr. Leale describe his case; one was the advantage of the elbow-forceps, and the other was the prudence of delaying the insertion of the tube. In one case of tracheotomy a plug of mucus filled up the opening, and if it had not been for the elbow-forceps the child would have suffocated. In another case, in the absence of the physician, the tube became choked up and the patient died. For this, as well as other reasons, he was in favor of waiting some time before introducing the canula. Dr. Briddon said that he had obtained much satisfaction from the use of the elbow-forceps. He had found, however, that when the tube was removed every hour and soaked in glycerine, serious danger was not to be apprehended from inspissated mucus. Dr. Mason related a sad case in which, after the successful performance of the operation, the patient took a long breath, and in this manner drew in a plug of mucus which could not be removed by the forceps, and, as a result, the child fell back asphyxiated. Some discussion took place as to the prudence of leaving the incision in the trachea free; but the general impression was that it would not prove satisfactory.

Pott's Fracture resulting in Amputation of the Leg.—Dr. Briddon presented a specimen of necrosed tibia which was removed from a patient with the following history: A man, aged twenty-four, received an injury on February 23d, which, on examination in the hospital, proved to be a case of Pott's fracture. The patient was markedly syphilitic, and showed on the other leg extensive cicatrices, the result of syphilitic ulceration. Shortly after admission to hospital the leg sloughed, and converted the case into one of compound fracture. The patient was placed on supporting and anti-syphilitic treatment; but after three months the disease had extended, and involved the bones of the ankle-joint. After consultation it was considered judicious to amputate at the middle third of the thigh. Since the operation there has been no bad result, beyond slight sloughing of one of the flaps.

Perforation of the Vermiform Appendix.—Dr. PEUGNET exhibited a specimen of intestine showing perforation of the vermiform appendix. The patient was a man aged nineteen, who had been ill for a few days, and, on attempting to enter a carriage, was seized with syncope. In a few days he died of peritonitis.

At the autopsy there was found ulceration of the cæcum, with perforation of the vermiform appendix, and general peritonitis.

Femoral Hernia; Death.—Dr. PEUGNET also presented a specimen of femoral hernia. A woman, sixty-eight years of age, suffered for years from intestinal obstruction with severe abdominal pain, which was promptly relieved by the administration of croton-oil. The only explanation of the symptoms rested in the fact that she had had a femoral hernia forty years before. By the use of a pad all signs of the hernia passed away, but recently the patient noticed a lump in the left inguinal region, which on examination proved to be a strangulated femoral hernia.

The ordinary operation was performed; but on reaching the sac it was not opened, for the reason that, when the hernia was aspirated, no difficulty was found in its reduction. The patient did well for eleven days, when she got out of bed, contrary to orders. Following this peritonitis appeared, and the patient died of collapse twelve hours afterward. At the autopsy the evidences of peritonitis were made out, with adhesions of the intestine to the sac.

Ovarian Cyst; Recovery.—Dr. PEUGNET also presented a specimen of ovarian cyst, which was of interest from the fact that the age of the patient was seventy-one years. The patient had the operation of tapping performed, by which twelve pints of serous fluid were removed. Six weeks afterward it was considered advisable to perform ovariotomy. At the operation the cyst and contents, weighing fifty pounds, were removed. The pedicle was secured by a clamp, and a drainage-tube inserted. Slight peritonitis followed the operation, but on no occasion was the pulse above 90 per minute. The cyst was unilocular. Dr. Peugnet said that the special interest of the case was the fact of recovery taking place in a patient over seventy. He was not aware of ovariotomy having been performed successfully on a patient of that age.

PATHOLOGICAL SECTION OF KINGS COUNTY MEDICAL SOCIETY.

Stated Meeting, April 27, 1876.

Dr. C. H. Giberson, President.

Dr. A. G. Gerster presented a heart with both aortic and mitral insufficiency and obstruction, with the following history:

Mrs. D., aged forty-eight, was seen June 16, 1875; she was emaciated and tired out; face cyanotic; forehead dripping with perspiration; chest violently agitated with laborious breathing.

She had had occasional paroxysms of dyspnœa and palpitation for ten years, the result of acute rheumatism.

The pulse was filiform, very irregular, with distinct and frequent intermissions. Liver dullness abnormally large; cardiac dullness normal.

Auscultation showed severe bronchial catarrh, but the heart was too irregular and tumultuous in action to *locate* any murmur, heart disease being obviously present.

Enemata for constipation, and fluid extract of digitalis (Squibb), in two-drop doses, were given, the latter to steady the heart and relieve the pulmonic circulation. Morphia was exhibited to relieve the persistent cough, the digitalis being given at first every two hours.

After two days the pulse could be counted, and was found to be 100 per minute, but the cardiac sounds could not yet be made out.

By June 20th the patient had taken one hundred drops of digitalis; pulse was 84, stronger, but still somewhat irregular; dyspnœa gone; appetite returned; and patient moving about the room. A long, sibilant, systolic bellows-murmur was heard at the base of the heart, and the diastolic sound was muffled. The vague character of the diastole, the apparently normal size of heart, the systolic murmur, the very weak pulse, together with other points, seemingly paradoxical, rendered a satisfactory diagnosis difficult.

After deliberation, the systolic murmur and filiform pulse were given the highest value, as being unmistakable, and aortic obstruction was considered to be present without doubt, mitral lesion being also suspected.

The patient was placed on a roborant treatment, and the heart kept steady by use of pills containing digitalis, capsicum, and nux vomica.

She was sent off to the country, and was comfortable all the summer.

On September 13th I was suddenly summoned to her bedside, and found her moribund from pulmonary œdema, and learned that, having been taken suddenly ill in the country, she had been brought to town worse than ever. An autopsy (September 15, 1875) gave the following results: Bilateral pulmonary œdema; large granular liver; hypertrophied spleen. A smallish heart, with thin walls, in state of fatty degeneration, all the cavities filled with soft, dark clots. Mitral obstruction and insufficiency, valves retracted, thickened, and rigid. Aortic valves in a similar condition, producing obstruction, and probably insufficiency. Aorta normal; no atheroma. Other organs normal. The physical signs may now be easily explained. The left ventricle, usually hypertrophied, as result of aortic lesion, did not undergo this change, as the supply of blood was limited by the mitral obstruction, and did not afford the usual stimulus to the walls of the ventricle. Another reason may be, that the arterial tension in the coronary arteries was too slight to allow of hypertrophy.

It is true that fatty degeneration of muscle is usually secondary to, or a consequence of, previous hypertrophy, and we may suppose that years ago this heart *might* have been hypertrophied, but this must be conjecture only.

The mitral lesions explain the dyspnœa, cyanosis, and fatal termination. The right side of the heart is entirely normal.

Dr. Gerster also presented a large lipoma, removed on the 23d ult., as a fair example of capsulated lipoma.

Dr. Mathewson presented an eye removed for glioma.

The child presented herself at the Eye and Ear Hospital about a year ago, and immediate enucleation was advised. The child disappeared till last month, and the operation was done March 8, 1876.

Recurrence soon occurred, and on April 20th the orbit had filled up, and the lids protruded as a tumor, the size of a semisphere three inches in diameter. At this last date the orbit was partly emptied to relieve the tension pain. Dr. Mathewson called attention to the great malignancy of this neoplasm, although no *constitutional* infection has occurred, and no glands were involved—a striking contrast to the progress of carcinoma. In answer to a question, Dr. Mathewson said that the *congenital* form of glioma was frequently free from pain, and death often occurred by metastasis.

Dr. Rushmore spoke of a case where recurrence took place in two weeks.

Dr. P. L. Schenck, Medical Superintendent of the Kings County Hospital, presented five calculi successfully removed by the median operation; all except the first were too large for removal without crushing. Although no analysis has yet been made, the gross appearances are those characteristic of the phosphatic variety.

Case I.—J. M., colored, aged twenty, United States, laborer; always lived in Kings County; has had symptoms for six years. Suffering and emaciation extreme; very severe cystitis; operation March 10, 1874; weight of stone, five hundred and twenty-four grains; recovery rapid and complete.

Case II.—P. W., aged thirty-two, France, soldier; symptoms for six years; complete incontinence and severe cystitis for one year; nocturnal incontinence for four years. Operation October 28, 1874. Stone three and a half inches long, weighed seven ounces; cystitis and imperfect control of bladder have continued.

CASE III.—M. M., aged twenty-nine, Ireland, sailor; symptoms for one year: hemiplegia of left side for two months; urine bloody and purulent; spasm of paralyzed muscles during micturition. Operation, April 9, 1875; weight of stone, one ounce sixty-six grains. A spiculum of bone found in the urethra just anterior to the prostate, its origin unknown. Made a good recovery.

CASE IV.—J. D., aged twelve, United States (Kings County all his life). Symptoms more than one year. Operation, September 30, 1877; weight, one ounce; a urinary fistula, lasted three months and closed spontaneously. Recovery complete.

CASE V.—H. V., aged fourteen; Michigan. Lived in Brooklyn ten years. Has *always* had symptoms of stone, the most marked being nocturnal incontinence of urine. Operation, April 20, 1876; weight, three hundred and ninety-five grains. Recovery.

Dr. CHARLES JEWETT presented uterus and annexa from a lady who was delivered of her eighth child April 7, 1876. Slight albuminuria had lasted for the month previous to her accouchement, but she was passing a normal amount of urine at time of labor. Till April 10th, with the exception of slight tympanites, nothing abnormal occurred. At this date she was found with a high temperature, but made no complaint of anything but drowsiness. The lochia were normal, and continued so during the illness. The milk gradually decreased in amount, and became suppressed during the last few days of life.

11*th.*—Slight tenderness on pressure was made out, over the left broad ligament; the tympanites persisted, but no pain. During the first three days the temperature rose to 105° at noon, and fell at night nearly to normal, thus simulating malaria. Delirium was a prominent symptom after the third day.

7*th*, A. M.—Pulse 92, temperature 104.5°.

8*th*, A. M.—Pulse 80, temperature 98.5°; 12 M., a chill, *only* one during the illness.

9th, 9 A. M.—Pulse 88, temperature 103.5°. Typhoid condition now well marked, and a mild attack of diarrhœa occurred, repeated several times subsequently.

11*th* and 12*th*.—Tympanites became quite well developed, and, *for the first time*, slight colicky pains were noticed. At no time was there vomiting. An interesting feature was the slight tolerance of opium; morph. sulph., one-sixth grain every six hours, occasioned marked somnolence, and was discontinued. Morph. sulph., one-quarter grain on the tenth day, caused deep sleep, from which she could be roused with difficulty.

The case was seen two or three times by Dr. SKENE in consultation, and the diagnosis was septicæmia; but, until the last two days of life, peritonitis was thought to be excluded. She died comatose on the twelfth day of disease, fifteenth after delivery. Autopsy, thirty-eight hours after death, assisted by Dr. N. B. SIZER.

Two or three ounces of serum, with flocculi of lymph, flowed from the peritoneal cavity on incision. Peritonæum everywhere injected, and omentum overlaid by patches of thick yellowish lymph, its lower portion being deeply injected, and adherent to fundus uteri; and so firmly bound to a coil of the ilium, lying next to the cæcum, that the tissue tore before the adhesions gave way. The intestines were not glued together. The uterus was fixed by firm adhesions over its posterior surface; no anterior adhesions. On removing the uterus, a puriform liquid flowed from two of the veins between the folds of the left broad ligament. A small deposit of a similar fluid and of the size of a pin's head was found in the free edge of the left broad ligament. Uterus was six inches long, and normal, except that the placental side was still rough. No pus in the uterine sinuses. The coats of some veins in left side of uterus were reddened and thickened. No evidences of parametritis were found. Capsule of the left kidney (the only one examined) slightly adherent. Surface darkish and mottled; pyramids darker than normal; weight, six and a half ounces. In discussing the question of peritonitis, Dr. RAYMOND said that he had seen several cases where pain was not a marked symptom. Dr. GERSTER spoke of cases in the Vienna hospitals, and of the case of the lamented Dr. Krackowizer, where intestinal perforation and marked peritonitis were found, although he had made no complaint of pain. Dr. JEWETT remarked that Prof. Hamilton thought that delivery under anæsthesia bore a certain relation to peritonitis. Dr. GIBERSON spoke of Dr. Barnes's idea, that albuminuria and anasarca were related to puerperal peritonitis, as well as to hæmorrhage, the decomposition of clots, etc. After remarks by the members on the contagion of puerperal fever, and the best methods of disinfection, the section went into executive session.

Bibliographical and Literary Notes.

ART. I.—*Lectures on Orthopedic Surgery and Diseases of the Joints, delivered at Bellevue Hospital Medical College, during the Winter Session of* 1874–'75. By LEWIS A. SAYRE, M. D., Professor of Orthopedic Surgery, etc. Illustrated by 274 Wood-engravings. New York: D. Appleton & Co., 1876. Pp. 476.

THE author of this volume has so long been known as an enthusiastic student of orthopedic and allied branches of surgery, that it scarcely required the very formidable array of titles with which he has fortified his name to interest the profession in the appearance of his published lectures. It will doubtless gratify our national pride to learn that we have a veritable "knight" among us, and we believe that, if it were left to the medical profession to designate the member of their fraternity best fitted to adorn the "Order of Wasa," Prof. Sayre would be unanimously selected.

The work is dedicated to those physicians and students who have sustained and encouraged the author "in the enunciation of new truths." In the preface, the author states that, for some years past, he has been in the frequent receipt of letters from medical gentlemen of the highest standing at home and abroad, urging him to prepare a work "setting forth my peculiar views" of the pathology and method of treatment of diseases of the joints. The critical reader will be quite disarmed by the author's frank acknowledgment in the preface, that these lectures appear as they "were delivered extemporaneously and without preparation," "many of them being clinical, and upon cases just presented to me for the first time in the lecture-room," and that, though in the perusal of the proof he found many expressions which he would like to change, he found "it difficult to alter the text without destroying its originality." While it is true that the free and easy style of a lecture admits of many piquant illustrations of a subject, in tone, gesture, and expletive, it is equally true that a *verbatim* report of a lively, animated, and perhaps instructive lecture often reads tamely at a distance, in time or place, from the lecturer and the lecture-room. Expressions and anecdotes which pleasantly filled the wide gaps between the lecturer's truths are liable to give to the printed text an unexpected barrenness. The great masters of clinical teaching understood this well. The first efforts to report Sir Astley Cooper's lectures, unrevised, led to an unfriendly collision between him and his favorite pupil, while Abernethy resorted to the courts to obtain an injunction against his *verbatim* reporter. We can only regret that our author had not subjected his proofs to a most rigid pruning, even if he had thereby destroyed somewhat of its "originality." We have little confidence in diagnoses made at sight, nor do we attach great value to random remarks made on miscellaneous clinical cases.

The first lecture is introductory, and contains some sensible advice to students, with a few historical notes and references. The term orthopedia, first used by Andry in his work "L'Orthopédie," 1741, the author states, is evidently derived from ὀρθός, *straight*, and παιδευω, *I educate*, and in that sense he uses it, "thinking that to relieve deformities is to educate them straight." Andry, on the contrary, derived the latter word from παιδός, genitive of παῖς, *a child*, and adds: "From these two words I compose the term *orthopedy*, to express in one word the design which I propose to myself of inculcating the means of preventing and correcting in children deformities of the body." Dr. Sayre gives Stromeyer the credit of "first performing *subcutaneous tenotomy* for the relief of clubfoot," in 1830, but fourteen years before, viz., March 9, 1816, Delpech divided the tendo Achillis in a case of club foot, "without injury to the covering skin." That Delpech understood well the value of subcutaneous tenotomy, is proved by the first rule which he gives in his "Chirurg. Clinique," published in 1823, for performing this operation, viz.: "*The tendon to be divided should not be exposed; its section should be made by entering the knife at a distance from the tendon, and not* through an incision in the skin parallel to it."

The first five lectures are devoted to the general subject of deformities. Dunglison's definition of "deformation" is adopted as the definition of "deformity," viz.: "A morbid alteration in the form of some part of the body"—a definition which has a somewhat limited application in orthopedic surgery. Without attempting any classification of deformities, the author defines in a general way the various terms in use. He still prefers the old term "contractured," applied to muscles in a state of permanent contraction, to that of "adaptive atrophy," introduced by Paget, and now in general use. Under the head of "Etiology," various so-called causes of acquired deformities are given, much in the order in which they occurred to the lecturer, and without systematic classification. It is not surprising to find in this catalogue results enumerated among causes. "Phimosis" as a cause of deformity is dwelt upon at some length, and an interesting case of this nature is detailed. Diagnosis is omitted in this connection, but prognosis is discussed with a view to show the importance of cooperation of the patient. Three lectures are devoted to the consideration of certain general principles of treatment. The first direction given is, "commence *early*." The operation of tenotomy is next described, and this important rule laid down as a guide to settle the question of the propriety and place of the operation:

"Place the part contracted as nearly as possible in its normal position, by means of manual tension gradually applied, and then carefully retain it in that position; while the parts are thus placed upon the stretch, make additional point-pressure with the end of the finger or thumb upon the parts thus rendered tense, and, if such additional pressure produces *reflex contractions*, that tendon, fascia, or muscle, must be divided, and the *point* at which the reflex spasm is excited is the *point* where the operation should be performed."

This rule, the author declares, is universal in deciding the question of cutting contracted tissues. It is certainly a very simple rule, but we fear has some limitations not yet discovered by the author. We have failed, for example, to elicit any reflex contractions by "point-pressure" in contractions of the palmar fascia, but still found division of the fascia the only method of properly overcoming contraction.

The tendon being divided, shall the parts be restored immediately to their normal position? The author follows the teachings of Mr. Syme, and advises restoration at once. The only exception he would make is in the division of tendons prior to the forcible breaking up of anchylosed joints. This rule is given without due regard to the method of repair of tendons. In general, the practice would be followed by non-union, for dissection has repeatedly proved that, when separation is enforced from the first, the only tendon which is adequately repaired is the tendo Achillis. Mechanical appliances, electricity, and other methods of treatment, are briefly considered, and very judicious advice is given in their employment.

With the seventh lecture the author takes up special deformities, and first treats of *talipes*. The several varieties of club-foot are first passed in review, and a large number of illustrative cases are introduced. In order to understand the methods of treatment pursued, we must turn to the sections on etiology and treatment. Dr. Sayre adopts the opinion of Barwell, that these deformities are paralytic in their nature. He remarks: "Experiment and observation have fully demonstrated that in the immense majority of cases the pathological change" is paralytic. While he does not "deny the possibility of such a spinal disease as should cause a tonic spasm of the muscles existing *in utero*," he states that he has never seen such cases. This view of the causes of congenital talipes is at variance with the conclusions of the best English authorities, Little, Adams, and Brodhurst; and "experiment and observation," so far as they have demonstrated any facts, seem to have fully sustained the opinion that spasmodic contraction, as a rule, is the condition of the muscles in congenital deformities. Indeed, the test that Dr. Sayre gives, viz., the ease with which the foot may be restored immediately after birth, by judicious management of the nurse, is proof of itself that there is no paralysis of antagonizing muscles. The course of treatment to be pursued, the author believes, will be governed by the surgeon's opinions as to the causes; if he regards deformities as due to paralysis of one set of muscles, and the normal contraction the opposing set, he will rely on mechanical appliances; but, if he regards one set of muscles normal, and the opposing set in a state of spasmodic contraction, he will be disposed to commence the treatment with tenotomy. But this is not the practical result of such views with competent surgeons. We see no difference between their treatment and that of the author, as regards tenotomy. In very many of the cases here given in illustration tenotomy was the first step in treatment, and for the best of reasons.

The nineteenth, and five following lectures, are devoted to "morbus coxarius." As a series, these lectures are the most interesting in the book, because the whole subject is treated with more system and detail. This has evidently been the author's favorite field of practice, and his opportunities have been sufficient to establish every doubtful point in the history of this affection. We shall not dwell upon these lectures, as the whole subject has been so frequently discussed in medical periodicals, but notice in passing only some of the more salient features. The author enforces the doctrine of the traumatic origin of hip-joint disease, and believes it may commence as a common synovitis, or, according to Key, by a rupture of the round ligament, or as an ostitis from extravasation of blood after injury. He makes three stages, after Ford, but would call the second and third *Effusion* and *Rupture*. The explanation of Weber of the cause of abduction, viz., effusion, is adopted, and also Barwell's statement of the causes of pain at the knee. The old view of dislocation as a result, in the third stage, is combated, and the statement is made that in fifty-nine exsections he found luxation in but one case. The history of extension as a method of treatment is given, and the labors of Harris, of Philadelphia, March, of Albany, and Davis and Taylor, of this city, are mentioned and acknowledged, with full description of the apparatus now in use. The history of exsection is next given, and detailed directions in performing this operation, and in managing the after treatment. The indications for exsection are to be gathered from an examination of the cases reported. The subject is concluded with a table of the author's cases of exsection, fifty-nine in all, and a summary of the causes of death in twenty of these cases. A careful examination of these tables, and a comparison of the results in a large number of cases properly treated in the third stage, lead us to query if the time has not already arrived—predicted by the author—when "surgeons know sufficient of hip-joint disease and its treatment to render the operation entirely unnecessary."

The next lecture is occupied with diseases simulating hip-joint diseases, viz., sacro-iliac diseases, caries of ilium, periostitis of trochanter, congenital malformations, as dislocation. The author proposes to substitute the word "displacement" for "dislocation," stating that the acetabulum never really existed, owing to the non-fusion of the three bones composing it, and hence the head of the femur never had a location in it. And yet he explains the change that has taken place as follows: "The cavity of the acetabulum being incomplete, the head of the femur rides through the opening left, and is found upon the dorsum of the ilium. Inasmuch, therefore, as the acetabulum has never really existed, in consequence of an arrest of development, there can, of course, be no *dislocation* from it." The conclusions of the author, from the premises given, are by no means so apparent to us as to him. He admits that the head of the femur was at first in an imperfect acetabulum; that it "rides through the opening left," and is then "found upon the dorsum of the ilium." With what propriety he can allege that there is no *dislocation*, because there has been no *location*, we cannot understand. A case in which a fracture of the acetabulum renders it so imperfect that "the head of the femur rides through the opening left, upon the dorsum of the ilium," is very properly regarded as a dislocation. Nor do we see the propriety if we adopt the author's peculiar argument of substituting "displacement" for "dislocation," for how can that be *displaced* which has never been *placed?* We do not believe that the change of terms proposed will in the least improve our nomenclature, and prefer to retain the old word dislocation. *Diastasis* of the head of the femur is more often mistaken for hip-joint disease than has heretofore been allowed, and we are glad to find the subject thoroughly treated in this connection.

Lectures XXV. and XXVI. are occupied with diseases and deformities of the spine. In "Pott's disease," "posterior angular curvature" (why will not Dr. Sayre give us a correct name), we have Dr. Taylor's "brace" recommended, but for a peculiarity in its construction, which, we believe, that physician has discarded, viz., the "hinge motion." The prime object of treatment, as established by Davis, is to transfer the superincumbent weight from the diseased bodies of vertebræ to the articular processes, and this may be quite as effectually accomplished without as with a hinge. Plaster of Paris as a dressing is highly commended. It was introduced into practice, as we learned from Dr. Sayre, at the last meeting of the *American Medical Association* at Philadelphia, by Dr. Bryan, formerly of Bellevue Hospital. It is certainly a very simple and efficient appliance, though uncleanly and somewhat obstructive to free respiration and the action of the skin. In disease of the cervical vertebræ the author prefers Davis's method of supporting the head by a hoop and elastic bands. Taylor's "Chin-piece," an excellent contrivance, is not mentioned.

Of the numerous theories explanatory of lateral, or "rotary-lateral," curvature, the author adopts that of "abnormal muscular contraction," as the "true pathology." In immediate connection with this statement we are taught that "half of these deformities are the result of the want of energy, want of life enough to sit up straight;" "careless habits of sitting not infrequently develop a curve in the spinal column at some point which is sufficient to establish the deformity;" "fracture of the femur or tibia, when followed by considerable shortening, causing the body to lean toward the side upon which the fracture took place, may be sufficient to establish lateral curvature." When the first curve in the spine is developed in the dorsal region, it is stated to be due to the action of the inspiratory muscles. This theory lays great stress upon the action of the serrati. It was modified from Stromeyer by Barwell, and while ingenious has by no means solved obscure points in the clinical history of lateral curvature. The treatment proposed is to stretch relaxed and relax stretched muscles. The methods employed are not new, nor novel, as Barwell's elastic apparatus, Wood's spinal corset, division of muscles as advocated by Guerin. The author prefers section of the latissimus dorsi as practised by Stromeyer, and afterward by Hunter, of Glasgow, and reports favorable results.

The remaining three lectures are occupied with anchylosis and various deformities not noticed in the preceding lectures. Several interesting cases are detailed, but they are too familiar to the profession to require notice.

The execution of the work by the publishers is excellent. The illustrations, with which the book abounds, though not always accurately drawn, generally add largely to the usefulness of the text. Occasionally they are apparently intended to exhibit the latest style of dress rather than instruct the reader, as for example, on page 300, where a lady, who had an exsection of the head of the femur when a child, appears in full dress to show us her "present condition." We should have been better satisfied with her "present condition," had she presented the aspect of the figures on page 348.

We close this work with the feelings of the traveler who reviews the journey of a day through pleasant scenery, entertained at every step by his guide with anecdote and illustration. Though we have gained little scientific knowledge of the country through which we have passed, yet we have learned enough of its more prominent features to enable us, with some degree of confidence, to attempt to travel the same road alone. We have, perhaps, not been sufficiently impressed with the "new truths" or "peculiar views" of the author, for we find those set forth most prominently in this book scattered through the surgical literature of the last half century. Not as an original treatise, but as clinical memoranda on an important and much-neglected branch of surgery, this work will prove of value to the practitioner, and as such we trust it will find a wide circulation.

Art. II.—*Consumption in Australia.* By C. E. Reeves, B. A., M. D. 8vo, pp. viii.–154. Melbourne, 1874.

The author of this little book describes, as occurring in Australia, a disease of the upper portion of the lungs, the pathological steps being inflammation, induration, softening, and the formation of cavities, attended with many of the usual signs and symptoms of tubercular phthisis, but free from tubercular deposit. Cases of tuberculosis occur but rarely. Among the causative influences of the ordinary form may be enumerated bronchitis, "colonial fever" (the poison acting upon the lining of the pulmonary vessels), dampness, apoplexy, gangrene, etc.

The work does not seem to be a very systematic treatise, yet if the author's views should be corroborated by other observers some points will have been brought to view which might be considered untenable at present. He says: "There is a form of congestion of the ultimate air-cells met with here (in Australia), unattended with congestion of the substance of the lungs" and expectoration, but usually ending in a most severe form of asthma.

Treatment directed to the resolution of the solidified lung in the cases of so-called "consumption," such as quiet, avoidance of dampness, counter-irritation, etc., is said to prove successful; but if the cases are neglected they will pass into the varied stages and end fatally.

Art. III.—*Seventh Annual Report of the State Board of Health of Massachusetts.* January, 1876. 8vo, pp. xxii., 551. Boston: Wright & Potter, 1876.

The volume before us is of no less importance nor less interesting than its predecessors which have become so noted, and which are exerting so great an influence all over this country in effecting sanitary reforms.

It is a popular belief that ice, wherever obtained, contains no impurities—that they are all "frozen out." Dr. A. H. Nichols, however, in his "Report on an Outbreak of Intestinal Disorder, attributable to the Contamination of Drinking

Water by means of Impure Ice," would convince the reader that that view is incorrect. He closes his article (p. 472) with the following important statement:

"The notion that ice purifies itself by the process of freezing is not based upon trustworthy scientific observation. On the contrary, it is utterly wrong in principle to take ice for consumption from any pond the water of which is so fouled as to be unfit for drinking purposes."

All the articles are highly instructive, and the plates and maps, of which there are several accompanying the volume, assist in the understanding of the text.

Art. IV.—*Lectures on Fever, delivered in the Theatre of the Meath Hospital and County of Dublin Infirmary.* By William Stokes, M. D., D. C. L. Oxon., F. R. S., etc. Edited by John Wm. Moore, M. D., F. K. Q. C. P., etc. 8vo, pp. xvi.–264. Philadelphia: H. C. Lea, 1876.

We noticed the English edition, of which this volume is a reprint, in the number of this Journal for June, 1874. After passing through the columns of the *Medical News and Library* it is reissued without revision. We do not modify the opinion we expressed in our previous notice of the book; but in addition we would state that, while it contains many excellent and practical ideas, it would have met the wants of the practitioner more effectually had it been reëdited, with notes setting forth the modern views of the antipyretic treatment of fever.

Art. V.—*Perinephritic Abscess in Children, with a Report of Nine Cases.* By V. P. Gibney, A. M., M. D., etc. 8vo, pp. 20. New York: William Wood & Co., 1876.

In this pamphlet (which is a reprint from the *American Journal of Obstetrics*, etc., April, 1876), are reported nine interesting cases of this rare disease, making a valuable contribution to the literature of perinephritic abscess, especially as occurring in children.

Art. VI.—*A Contribution to the Medical History of our West African Campaigns.* By Surgeon-Major Albert A. Gore, M. D., etc. 8vo, pp. viii.–218. London: Baillière, Tindall & Cox, 1876.

The author of this volume gives a very interesting account of his experiences in certain campaigns in Africa, including some statistical information. Many important practical points are brought out.

Books and Pamphlets Received.—Spinal Anæmia, with Partial Paralysis and want of Coördination, from Irritation of the Genital Organs. By Lewis A. Sayre, M. D. Extracted from the Proceedings of the American Medical Association. Pp. 29.

A Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. II., No. 4. Some Forms of Dyspepsia. By Francis Delafield, M. D., Adjunct Professor of Pathology and Practical Medicine in the College of Physicians and Surgeons, New York.

Diphtheria and its Treatment. With Statistics of One Hundred and Seventy-nine Cases. By C. E. Billington, A. M., M. D., Visiting Physician to Demilt Dispensary, etc. Reprinted from the Transactions of the New York Academy of Medicine.

Micro-Photographs in Histology, Normal and Pathological. By Carl Seiler, M. D., in conjunction with J. Gibbons Hunt, M. D., and Joseph G. Richardson, M. D. Vol. I., Nos. 1 and 2. Published Monthly. Philadelphia: J. H. Coates & Co., 1876.

Mémoires sur la Galvanocaustique Thermique par le Docteur A. Amussat Fils. Avec 44 figures intercalées dans le texte. Dessinées par Faguet. Gravée par MM. Blaudet, Rapine, Salle et Thiébault. Paris: Librairie de Germer Baillière, 1876. Pp. 125.

Medical Department of the University of Wooster, Cleveland, Ohio. Annual Announcement of Lectures, with a Catalogue of Officers and Students.

The Cause of Rotation in Lateral Curvature of the Spine. By A. B. Judson, A. M., M. D. Reprinted from the Transactions of the New York Academy of Medicine.

The Spectroscope; its Value in Medical Science. By George B. Fowler, M. D. Reprinted from the Transactions of the New York Academy of Medicine. New York: D. Appleton & Co.

A New Method of Treating External Aneurism. By Walter Reid, M. D., R. N., Staff Surgeon, Royal Naval Hospital, Plymouth. London. Pp. 10.

Proceedings of the Medical Society of the County of Kings, Brooklyn, N. Y. June, 1876.

Reports on the Progress of Medicine.

CONTRIBUTED BY DRS. GEORGE R. CUTTER, EDWARD FRANKEL, SAMUEL B. WARD, AND E. H. BRADFORD.

SURGERY.

Local Application of Creasote in Hæmorrhages.—Hæmorrhages from the nasal, pharyngeal, and oral cavities often lead to death, because of the inefficiency of the remedies used to check them. The sanitary physician, Dr. Böttger, of Dessau, finds creasote to be far superior to all other styptics for this purpose. In the case of dental hæmorrhages, a small tampon, impregnated with a thick mixture of creasote in substance and alumen kinosatum, is to be pressed into the bleeding alveolar cavity. If the hæmorrhage does not stop at once, another similar compress should be superimposed, and the pressure increased with the finger. In obstinate nasal hæmorrhages, plugging the nose with charpie tampons, impregnated with the same mixture, is uniformly successful. The author gives the histories of a number of cases which prove creasote to be an extremely valuable local styptic.—*Memorabilien*, xx. Jahrgang, 11. Heft. G. R. C.

Surgical Operations during Pregnancy.—At a recent meeting of the *Société de Chirurgie*, M. Nicaise related the interesting case of a woman who was operated on at an advanced period of pregnancy. She was twenty-two years old; married one year, and in the eighth month of pregnancy. Three months previous, a tumor, rapid in growth, had appeared, occupying the inferior portion of the humerus. Periosteal sarcoma was diagnosticated, which opinion was afterward confirmed by histological examination. Interference was necessary, and disarticulation of the shoulder-joint was performed, with the employment of Esmarch's bandage to guard against loss of blood. Eleven days after the operation the patient was able to leave her bed, her temperature having never exceeded 101°. One month later she was delivered of a child weighing three and a half kilogrammes. A few days after, having milk fever, two abscesses formed near the wound, but no other complications occurred to interfere with a rapid recovery.—In the discussion M. Verneuil remarked that he had observed a large number of traumatisms in pregnant females. In all cases the prognosis should be based on the temperature, whatever be the cause of the febrile movement. There is danger of abortion whenever the temperature reaches 104°. M. Polaielou, without denying the importance of extreme elevation of temperature, yet believed that two other factors should be borne in mind: 1. The loss of blood during the operation; 2. The period of pregnancy, abortion occurring more easily during the first half of gestation. M. Gueniot had seen febrile diseases follow their course without at all interfering with the progress of gestation. He related the case of a woman attacked with phlegmonous erysipelas of the hairy scalp at the fourth month, who recovered and was delivered at full term. The contractility of the uterus varied very much in different subjects and this had to be taken into account. This would explain why certain females were more liable to abort than others. M. Tillaux stated that he had operated on three females during pregnancy. In two cases voluminous vulvar vegetations were excised, and in the third the arm was amputated. M. Nicaise stated his belief that the danger of abortion increased the nearer the lesion was to the genital organs. E. F.

Successful Gastrotomy.—On March 30, 1874, a man, imitating the feats of a juggler, unintentionally swallowed a fork. During the succeeding two years the man suffered more or less from the pressure of the foreign body in his stomach, and on April 9, 1876, M. Labbé, of La Pitié, operated for its removal. He had previously attempted to procure adhesion between the visceral and parietal layers of the peritonæum; but the operation showed that his attempt had been unsuccessful.

The incision made was a little over an inch and a half in length, parallel to the inner margin of the false ribs, and rather less than a half-inch nearer the median line, and the lower end of the incision reached an imaginary transverse line passing through the cartilages of the ninth ribs. After the mucous membrane of the stomach had been everted, and stitched along the whole circumference of the wound, the fork was seized with polypus forceps and detached from amid a mass of "fungous tissue."

M. Labbé remarks: "The successful termination of the operation seems to me to be due to several conditions. I attribute it to the operative procedure adopted, founded on very exact knowledge of the 'land-marks;' to the precaution I took of fixing the stomach to the abdominal parietes before opening it; and to the consecutive treatment, especially the employment of so thick a layer of collodion as to render the walls of the abdomen and the digestive tube itself immovable, while submitting them to very firm compression. By means of this compression the character of the respiration was very decidedly modified, the diaphragmatic having been converted into an upper costal respiration."—*Medical Times and Gazette*, May 6, 1875.

S. B. W.

Obliteration of the Abdominal Aorta by a Clot.—A patient convalescent from an attack of hemiplegia with aphasia was seized with diarrhœa, vomiting, and violent epigastric pains. A few days later she became suddenly paraplegic; there was absence of pulse of femoral, tetanic rigidity of muscles, retention of bloody urine, hematemesis, and black involuntary stools. Temperature, 36.4° (cent.); respiration, 60; pulse, 60. After death, beside a patch of softening in the nucleus lenticularis of the right hemisphere, and a contraction of the auriculo-ventricular valve, a large clot in the aorta was found two centimetres above the bifurcation, and extending to a short distance above the popliteal space.—*Gaz. Hebdom.*, May 19, 1876.

E. H. B.

Painless Application of the Actual Cautery.—The surgeon is often deterred from using the actual cautery by the pain it produces. This pain may be avoided by the application of carbolic acid. This local anæsthetic is not used with near the frequency which its efficacy deserves.

Pure carbolic acid should be applied to the parts to be cauterized, which are then covered with a light compress; after a short time, before the anæsthetic effect has passed off, apply the cautery. There will be a complete absence of pain. It is immaterial whether the acid be liquid or crystallized; in the former case it is to be applied with a brush, in the latter it extends over the parts as it liquefies.—*Giorn. di Med. Mil.*, April, 1876, and *Gazz. Med. Ital. Venete.*

G. R. C.

Embolism of the Pulmonary Artery after Application of Esmarch's Bandage to the Inferior Extremities.—The application of Esmarch's bandage has been recommended as a means of relieving the debility consequent to hæmorrhages; by causing the return of the blood from the extremities into the viscera of the body, the diminished amount of blood is made to serve the purposes of nutrition, and life is maintained. In the *Wien. Med. Wchschrft.* for November 27, 1875, Dr. Massari publishes a case from the clinic of Prof. Spalth, which confirms this method of combating anæmia, but likewise points out one of its dangers. The patient was a woman, thirty-three years old, who was in a state of extreme collapse after hæmorrhage from placenta prævia. The application of the

bandages to the two inferior extremities at first proved beneficial, but several hours afterward the pain of compression became so great that their removal was attempted, but the return of syncope, etc., necessitated their immediate reapplication. There was no further change during the day, but at 11 P. M. pain recommenced, and the bandage of the left leg was relaxed, when the patient immediately became pale, complained of an intense precordial pain, the pulse became imperceptible, respiration anxious. Compression of the abdominal aorta was made, the bandage reapplied, and stimulants administered, after which the patient rallied somewhat. The pulse again became perceptible, but the cardiac and respiratory disturbances persisted, and the patient died two hours after. The autopsy revealed in both lungs several of the ramifications of the smaller branches of the pulmonary artery obliterated by small emboli, 3–4 millimetres in thickness. On dissecting the inferior extremities, the saphenous veins were found varicose; they contained small clots similar to those found in the pulmonary vessels. The explanation, therefore, was that a certain amount of blood had remained in the compressed veins and coagulated. When the bandage was loosened, some of these clots had been loosened by the reëstablished circulation, and, passing into the circulation, had given rise to pulmonary embolism.
E. F.

THEORY AND PRACTICE.

Calculus of the Bronchus.—M. Burdel reported the following remarkable case to the Paris Academy of Medicine:

A woman aged fifty-seven was suddenly seized, without any known reason, with a severe chill, followed by fever. This recurred on the second day and soon took a tertian type, for which quinine was given with apparent effect, checking the fever for several days. However, there was a reappearance in a few days; the slight cough the patient had complained of became worse, and at times there was sharp pain in right chest on coughing. No abnormal physical signs could be obtained on auscultation or percussion. This condition continued for four weeks; the access of fever appeared irregularly, at times being very sharp, and occasioning alarm. Finally, during an attack of coughing, the patient expectorated a hard mass eleven millimetres long, irregular in shape, of the thickness of a goose-quill, and forked at one extremity. Immediate relief followed the expulsion of this concretion. The cough and fever disappeared as if by magic.—*Gaz. Hebdom.*, April 28, 1876.
E. H. B.

Rare Form of Nævus.—Under this name Geber includes not only the congenital maculæ, but also those which occur during the first years of life, and depend on an hereditary disposition, manifesting itself by similar appearances in brothers and sisters. The author refers to nævi observed in two sisters, with the following characters: In the first of these children, at two years of age, the skin around the orbits was of an abnormal tint; at eight years of age (period of the observation), the pigmentation extended over the face, the nape of the neck, and slightly over the back of the hands; on the face there soon occurred indolent nodules, which gradually augmented in volume. Over small flaps of skin the following particulars were established: the epidermis was thickened, and in the chorion were found numerous embryonic and fusiform cells peculiarly rich in pigment. The vessels were numerous, the epithelial cells lining them were tumefied, and nearly obliterated the lumen of the capillaries; they were loaded with pigment. The sebaceous and sudoriparous glands were augmented in volume and pigmented. The other sister was affected in the same manner.—*Gazz. delle Clin.*, Feb., and *Gazz. Med. Ital. Venete*, March, 1876.

G. R. C.

Syphilitic Teeth.—At the inaugural meeting of the Association of Surgeons practising dental surgery, in London, Mr. Jonathan Hutchinson, in a discussion on the "Manifestation of Syphilis in the Teeth," declared that he still adhered to the belief that the teeth, which he described twelve or fifteen years ago as accompanying hereditary syphilis, were really and invariably characteristic of that disease. He thought the confusion of opinion on the subject grew out of the fact that this peculiar deformity had been confounded with other malformations, and especially with that arising from stomatitis, and usually mercurial stomatitis. The test teeth in the case of syphilis are the *central upper incisors of the permanent set*, and he had yet to see the first case in which these presented the single, small, lunar cleft, and were dwarfed in their general dimensions, in any other than a subject of inherited syphilis.

The tooth which is damaged by stomatitis is the first molar, because that is the first tooth in the patient's head to be calcified, and, developing much more rapidly than the rest, it is the tooth which suffers most if stomatitis occurs during the first six months of life. It never escapes if the teeth are damaged by mercury. Next come the four incisors and the canines; and the two pre-molars invariably escape. Mr. Coleman and himself had hit upon the fact that patients with lamellar cataract always have these mercurial teeth; and Prof. Arlt, of Vienna, had added the observation that there is also, connected with these two conditions, a history of convulsions in infancy. The relation of these facts to each other is believed to be, that the mercury is given for the convulsions, the convulsions cause the cataract, and the mercury causes the deformity of the teeth.

In conclusion, Mr. Hutchinson repeated the friendly challenge, which he had given for the last ten years, that he would take great pleasure in investigating the history of any case of characteristic syphilitic teeth without evidence of syphilis.—*Medical Times and Gazette*, May 13, 1876.

S. B. W.

DERMATOLOGY.

On Morbus Maculosus Werlhofii.—Dr. H. Rohlfs, of Göttingen, from the observation of four cases, arrives at the following conclusions concerning the causes, etc., of this condition: 1. The hæmorrhage proceeds from the capillaries of the skin, from the mucous or submucous tissue, but not from the rete Malpighi. Here the descriptions of various authors differ, some holding that the petechiæ are elevated above the skin, others that they are level with it. 2. Morbus maculosus Werlhofii is distinct from scurvy or hæmophilia, and constitutes a separate class. 3. It is very probable that there is a special blood dyscrasia, though it has not been chemically demonstrated. 4. From a therapeutical point of view, it is very important to distinguish two forms of the disease; though the symptoms are essentially identical, their etiology is different, in that the cause may be either sthenic or asthenic. 5. The fundamental cause of the asthenic form certainly resides in a chemical alteration of the blood, and we are forced to admit a *hæmorrhagic* diathesis, as in scurvy and hæmophilia. A further cause must be found in a change in the nutrition of the capillary vessels, whose walls lose their cohesion. As occasional causes may be assumed, influences of extreme temperatures, nervous impressions, and bad diet. 6. Capillary hæmorrhages, arterial or venous, can take place without rupture of the vessel, by simple transudation. The name *purpura* is improper, as it applies more properly to a hæmorrhage from arterial capillaries. 7. The sthenic is easily differentiated from the other variety, by the examination of the pulse and constitution of the patient. The former only occurs in plethoric individuals; the blood probably has a different chemical constitution, the fibrine and globules being increased. Here the vessels do not undergo alteration, and the hæmorrhage takes place by rupture of the vessels. 8. In the sthenic variety, bleeding is indicated in order to prevent hæmorrhages into more important organs. 9. The treatment and regimen of the two varieties are entirely different. Werlhof's method of quinine and mineral acids, which acts well in the asthenic form, is harmful in the sthenic. In the asthenic form it is necessary to abstain from all active medication, and it is well to allow the hæmorrhages to take place, unless the patient's strength is affected, or when hæmorrhages of the kidneys or other important organs survene; then intervention is called for. The treatment should be expectant and the regimen temperate. 10. Contrary to the opinion of many authors, the petechiæ do not always first disappear from the legs. Rohlfs has seen them disappear first from the neck and face. It was so in the first case published by Werlhof. 11. It is possible that the petechiæ may be caused by processes analogous to those described by Rindfleisch in the capillary hæmorrhages of the brain.—*Lyon Méd.*, No. 19, 1876. E. F.

Miscellany.

Appointments, Honors, etc.—Dr. C. O. Curtman has resigned the chair of Chemistry in the Missouri Medical College, and Dr. O. A. Wall has been appointed in his place. Dr. G. W. Hall, in the same college, has resigned the chair of Physiology, and is succeeded by Dr. C. A. Todd. Dr. J. P. Kingsley succeeds Dr. Wall in the chair of Materia Medica. Walter R. Gillette, M. D., has been appointed Attending Physician to the New York Lying-in Asylum.

Dr. George H. Kidd has been elected President of the Royal College of Surgeons in Ireland. Prof. Leyden has been called from Strasburg to succeed Traube in Berlin, and Prof. Nothnägel, of Jena, is mentioned as the successor of Leyden.

Indiana State Medical Society.—The twenty-sixth annual meeting was held in Indianapolis, May 16th and 17th, Dr. Helm, of Peru, President, in the chair. Papers were read by Dr. W. Hobbs, on Counter-Injuries of the Pelvis; by Dr. L. D. Waterman, on Lithotomy; by Dr. Parvin, on the Treatment of Placenta Prævia; by Dr. George W. Mears, on

Puerperal Convulsions; by Dr. I. C. Walker, on the Final Illness of the Late Dr. James S. Anthon; by Dr. Van Vorhis, on Hysteria; by Dr. W. H. Bell, upon Certain Reflex Pathological Nervous Conditions arising from Uterine Disease; by Drs. S. S. Boyd and W. F. Harvey, upon Tobacco, the former also one on the State Board of Health, and Home for Inebriates; by Dr. Gregg, on Medical Education; and by Dr. Sutton, upon the Use of the Fulcrum in the Reduction of Dislocation of the Hip-joint. The following officers were elected for the ensuing year: President, Dr. S. S. Boyd; Vice-President, Dr. E. D. Laughlin; Secretary, Dr. G. V. Woolen; Assistant Secretary, Dr. G. W. Burton; Treasurer, Dr. I. C. Walker; Librarian, Dr. J. R. Featherston.

The Boylston Medical Prizes.—Dr. W. Gill Wylie, of this city, has received the Boylston prize of three hundred dollars for an essay on Civil Hospital Construction, and Dr. Putnam Jacobi the prize of two hundred dollars for an essay on the subject, Do women require mental and bodily rest during menstruation?

The questions proposed for next year are as follows:

(1.) Are epidemics and so-called contagious diseases necessarily dependent upon material agencies, acting through the stomach or otherwise?

(2.) Athletic sports, training, violent exercises, etc., as now practised by young men; their temporary or permanent influence on the health.

The following are the questions proposed for 1878:

(1.) Antiseptic treatment. What are its essential details? How are they best carried out in practical form?

(2.) Diphtheria: its causes, diagnosis, and treatment.

Changes in the University Medical College.—In the Department of Medicine in the University of the City of New York the following changes have taken place: Prof. Charles A. Budd has resigned the chair of Obstetrics, Diseases of Women and Children. He has been elected Professor Emeritus of that chair, and will hold a weekly clinic. Dr. J. Williston Wright has been appointed Lecturer on Obstetrics and Diseases of Women and Children, and will give the lectures on obstetrics during the coming session. Prof. J. W. S. Gouley has been reappointed to the chair which he formerly held, viz., that of Diseases of the Genito-Urinary Organs. Dr. Robert Watts has resigned the position of Clinical Lecturer on Diseases of Women; Dr. Erskine Mason that of Professor of Clinical Surgery; and Dr. Walter Gillette that of Adjunct Professor of Obstetrics.

The New Medical Register.—The "Medical Register of New York, New Jersey, and Connecticut, for 1876–'77," edited by Dr. A. E. M. Purdy, is the most complete and satisfactory one that has yet been published. It constitutes a full and accurate directory of the regular physicians of those States, and contains much other information of value and interest to the profession. The list of physicians in this city and Brooklyn is given in large, clear print, on tinted paper. Full particulars are given of the various hospitals, dispensaries and public charities, medical societies, medical colleges, etc., etc.—in short, all the good features of the old Registers without their defects. A copious index adds much to the value of the work, which consists of two hundred and seventy-eight pages. It is published by G. P. Putnam's Sons.

The Archives of Clinical Surgery.—Under the above title the first number has appeared of a monthly journal of forty-two pages, devoted to surgery. It is edited by Edward J. Bermingham, M. D., and published by Rutledge & Co., of this city. The issue before us contains papers by Drs. James L. Little, T. Gaillard Thomas, Paul F. Eve, Clinton Wagner, D. M. Stimson, Joseph W. Howe, and Stephen Smith. Eight pages are devoted to records of cases in various hospitals. These reports are somewhat meagre. A smaller number of cases given in detail would be of greater interest. The original papers are excellent, and the general appearance of the journal is all that could be desired.

West Virginia State Medical Society.—The eighth annual meeting of this Association was held in Wheeling, May 31st and June 1st, Dr. James O. Wall, First Vice-President, in the chair. The following gentlemen were elected officers for the ensuing year:

President, Dr. E. A. Hildreth, of Wheeling; First Vice-President, Dr. Wm. Hukill, of Brook County; Second Vice-President, Dr. C. Shriver, of Bethany; Third Vice-President, Dr. Morgan, of Harrison County; Secretary, Dr. Wm. M. Dent, of Newburg; Treasurer, Dr. John Cox Hupp, of Wheeling. The next meeting will be held in Clarksburg.

Mississippi State Medical Association.—At the ninth annual meeting, held in Jackson County, May 31st and June 1st and 2d, Dr. M. S. Craft, President, in the chair, the following officers were elected for the ensuing year: President, Dr. P. J. McCormick; First Vice-President, Dr. R. G. Wharton; Second Vice-President, Dr. A. G. Smythe; Third Vice-President, W. W. Hall; Fourth Vice-President, Dr. D. C. McCallum; Recording Secretary, Dr. Wirt Johnson; Corresponding Secretary, Dr. C. A. Rice; Treasurer, Dr. R. Kells; Orator, Dr. B. F. Kittrell; Alternate, Dr. M. S. Craft. The next meeting will be held in Granada, on the first Wednesday in April, 1877.

Long Island College Hospital.—The seventeenth annual commencement of this institution was held June 22d, when forty-five gentlemen received the degree of Doctor in Medicine, at the hands of T. S. Mason, M. D., President of the Collegiate Department. The valedictory address was delivered by H. H. Hahn, A. B., M. D., of the graduating class.

Medical Members of the French Parliament.—Fifty-four medical men occupy seats in either the Senate or Chamber of Deputies, and they have organized a sort of committee for the joint consideration of all subjects of professional interest, with the view of presenting practical measures on questions requiring legislative interference.

Journalistic Notes.—We have received the first issue of the Oregon *Medical Journal*, dated June 1st, and to be published quarterly, in Salem, by the Marion County Medical Society.

The editors are Profs. C. H. Hall, A. Sharples, and L. L. Rowland.

Proceedings of the Association of the Representatives of American Medical Colleges, held at Philadelphia, June 2 and 3, 1876.—A convention of representatives of numerous medical colleges of the United States was held in the hall of the Jefferson Medical College, of Philadelphia, June 2 and 3, 1876, in pursuance of the following call:

> LOUISVILLE, KY., *May* 15, 1876.
>
> Following a general correspondence with the various medical colleges of the United States, the undersigned issue this call for a convention, to be held in Philadelphia, on Friday, June 2, 1876, four days in advance of the meeting of the American Medical Association. The object of the convention is to consider all matters relating to reform in medical college work.
>
> That decided results may be reached, the faculty of each college is requested to send one or more delegates, clothed with *plenary* powers to determine final action on every question.
>
> Should any college find it impracticable to send a representative, it is hoped that it will set forth fully by letter to the convention the views it may hold touching the suppression of existing evils and methods of practical improvement.
>
> Officers of the following colleges have informally signified their hearty approval of the movement:
>
> Jefferson Medical College, College of Physicians and Surgeons, N. Y., Bellevue Hospital Medical College, Ohio Medical College, Miami Medical College, Rush Medical College, Detroit Medical College, Louisville Hospital Medical College, Medical Department of University of Louisville, St. Louis Medical College, Keokuk Medical College, Cleveland Medical College, Starling Medical College, Medical Department of Georgetown College, Medical Department of Columbian University, Long Island College Hospital, Medical Department of Syracuse University, Evansville Medical College, Indiana Medical College, Medical Department of University of Nashville, Atlanta Medical College, Mobile Medical College, Savannah Medical College, Augusta Medical College.
>
> The convention will be called to order in the hall of the Jefferson Medical College at 11 o'clock A. M., on the day above named.
>
> J. B. BIDDLE, M. D., Jefferson Medical College.
> WM. H. MUSSEY, M. D., Miami Medical College.
> JOHN T. HODGEN, M. D., St. Louis Medical College.
> J. ADAMS ALLEN, M. D., Rush Medical College.
> W. T. BRIGGS, M. D., Med. Dep't University of Nashville.
> J. M. BODINE, M. D., Med. Dep't University of Louisville.

At the hour named the following representatives assembled:

Jefferson Medical College, Prof. J. B. Biddle and Prof. S. D. Gross; Medical Department University of Pennsylvania, Prof. R. E. Rogers; College Physicians and Surgeons, of New York, Prof. Edward Curtis; Medical Department University of Louisville, Prof. L. P. Yandell, Jr., and Prof. J. M. Bodine; Hospital College of Medicine of Louisville, Prof. J. A. Larabee and Prof. T. C. Wilson; Long Island Hospital Medical College, Prof. J. H. Raymond; Medical Department University of Iowa, Prof. E. Clapp; College of Physicians and Surgeons, Syracuse University, Prof. H. C. Wilbur and Prof. Van Dyne; Chicago Medical College, Prof. L. Curtis; Medical Department University of Georgia, Prof. E. Geddings; Indiana Medical College, Prof. T. B. Harvey and Prof. L. D. Waterman; Medical Department University of Wooster, Prof. W. J. Scott; Cleveland Medical College, Prof. J. H. Bennett and Prof. Heims; Detroit Medical College, Prof. E. W. Jenks and Prof. L. Connor; Starling Medical College, Prof. S. Loving; Medical Department University of Vermont, Prof. H. D. Holton; St. Louis Medical College, Prof. J. L. B. Alleyne; Atlanta Medical College, Prof. W. F. Westmoreland; Medical Department University of Nashville, Prof. W. T. Briggs; Medical Department Vanderbilt University, Prof. T. A. Atchison; Missouri Medical College, Prof. A. P. Lankford; Keokuk College Physicians and Surgeons, Prof. J. J. M. Angier; Columbus Medical College, Prof. J. F. Baldwin. On motion of Prof. Yandell, Prof. J. B. Biddle was elected President of the convention, and on motion of Prof. Bennett, Prof. Leartus Connor was elected Secretary. On motion of Prof. E. Curtis, it was

Resolved, That the action of the convention shall not be considered binding upon the colleges represented unless indorsed by their respective faculties.

On motion of Prof. Gross, it was

Resolved, That a committee be appointed to submit business for the consideration of the convention, to report at the afternoon session.

The chair appointed as this committee Profs. Bodine, Gross, Geddings, Holton, and Scott.

Prof. Bodine, from the committee to prepare business for the convention, reported the following questions for its consideration:

1. Shall the beneficiary system, with its present abuses, be condemned or indorsed?

After discussion, on motion of Prof. E. Curtis, the following preamble and resolutions were adopted with reference to question first:

Whereas, The practice of reducing or remitting in individual cases the established fees of a college has the objectionable feature of discriminating between students who may be equally deserving, and opening the door to possible gross abuses: therefore—

Resolved, first, That this convention regards the above privilege as one to be deprecated in general, and, if put into practice at all, to be exercised both rarely and reluctantly, and only in unusual circumstances, and after unsolicited application by proven deserving candidates.

Resolved, second, That anything like a wholesale system of such reduction or remission of established fees, or any open solicitation of recipients of such favors, be regarded as in the highest degree improper, and that any college indulging in such practices deserves to forfeit its place on the *ad eundem* list of medical colleges.

Question 2. Shall two consecutive courses of lectures in one year entitle students to become candidates for graduation?

On motion of Prof. E. Curtis, it was

Resolved, That it is the opinion of this convention that no two consecutive sets of lecture tickets shall be regarded as fulfilling the usual prerequisites of instruction for graduation, where the time between the beginning of the first course and the end of the second is less than fifteen months.

Question 3. Shall any faculty under any circumstances issue a diploma not bearing the graduate's name?

On motion of Prof. Waterman, it was

Resolved, That no medical faculty should issue a diploma not bearing the graduate's name.

On motion of Prof. L. P. Yandell, Jr., the regular order of business was suspended, and communications were read from the faculties of the following medical colleges: Louisville Medical College, Kentucky School of Medicine, Evansville Medical College, Rush Medical College, Medical Department University Louisiana, Medical School of Harvard University, Savannah Medical College, Cincinnati College of Medicine and Surgery, Medical College of the State of South Carolina.

On motion of Prof. Atchison, these communications were placed on file.

Question 4. Shall this convention resolve itself into a permanent organization?

On motion of Prof. Atchison, it was

Resolved, That the question be referred to a committee of five, to report at the afternoon session.

The chair appointed as this committee Profs. Atchison, L. Curtis, E. Curtis, Yandell, and Scott.

On motion of Prof. Rogers, the President and Secretary of the convention and Prof. Atchison were appointed a committee on publication.

Question 5. Is there any reason why the customary diploma fee shall be abolished?

On motion of Prof. Rogers, it was

Resolved, That it is the sense of the convention that the diploma fee should not be abolished.

Question 6. Is it advisable to adopt a graded course of study?

On motion of Prof. Bodine, the following preamble and resolution were adopted in reference to this question:

Whereas, A knowledge of the elementary branches of medicine should precede a study of the practical branches:

Resolved, That, in the hope of inducing students to prolong and systematize their studies, this convention recommends to all medical colleges to offer to students the option of three courses of lectures, after a plan similar to the following: Students who have attended two full courses of lectures on anatomy, chemistry, materia medica, and physiology, may be examined upon any of these subjects at the end of their second course. During their third course such students may devote themselves to the lectures upon the theory and practice of medicine, surgery, obstetrics and diseases of women and children, upon which subjects only they shall be examined at the final examination for the degree of M. D.—their standing, however, to be determined by the results of both examinations.

Prof. Atchison, from the committee to whom the subject of permanent organization was referred, reported the following resolutions:

Resolved, 1. That this *convention* now proceed to form a Provisional Association of American Medical Colleges, under its present officers.

Resolved, 2. That when the Association adjourns, it shall adjourn to meet at the call of its President.

Resolved, 3. That the various medical colleges be invited to take into consideration the project of forming, at the next meeting of this Provisional Association, a permanent Association of American Medical Colleges.

Resolved, 4. That for the furtherance of this object a committee of three be appointed at this meeting to confer by letter with the various colleges, and invite their views on the proper object and plan of such proposed organization; and, upon the receipt of the same, to draft a constitution and by-laws for a permanent Association, to be submitted at the next meeting of this Association.

Resolved, 5. That the advisory resolutions upon matters of college policy passed by this convention be printed and forwarded to all regular medical colleges in the United States for their consideration.

The chair appointed as committee to carry out the foregoing resolutions Profs. T. A. Atchison, Edward Curtis, and L. P. Yandell, Jr.

These resolutions were adopted, and the convention resolved itself into the Provisional Association of American Medical Colleges.

Question 7. Is it proper for a regular college to have any kind of alliance with homœopathy?

On motion of Prof. Atchison, it was unanimously

Resolved, That, in the opinion of this Association, medical colleges ought not to recognize or hold fellowship with any school or its alumni in which irregular medicine is taught as a part of the curriculum.

Question 8. Can college fees be made uniform?

On motion of Prof. Geddings, this question was referred to a committee of five to report at the meeting of the Association to be held in 1877.

The chair appointed Profs. Geddings, Gross, Angier, E. Curtis, and L. Curtis, this committee.

On motion of Prof. Biddle, the following resolution was unanimously adopted:

> No degree in medicine should be conferred, under any circumstances, except after an examination in person of the candidate upon all the branches of medicine.

J. B. BIDDLE, M. D., *President.*

Leartus Connor, M. D., *Secretary.*

New York Society for the Relief of Widows and Orphans of Medical Men.—At a stated quarterly meeting of the Board of Managers, held at the rooms of the New York Academy of Medicine, June 21, 1876, the following resolutions were passed in relation to the decease of Dr. John R. Van Kleek and of Dr. John O. Stone.

(Signed) James L. Banks, *President.*

Gouverneur M. Smith, *Secretary.*

On coming together so soon after the death of our long-time associate and friend, Dr. John O. Stone, and seeing the chair occupied by him at this board for so many years now vacated forever, we desire to place on record some expression of the love and respect we entertained for the deceased: therefore be it—

Resolved, That with unfeigned sorrow and grief do we lament the death of our fellow-member of this board, and former President of this Society, as an almost irreparable loss to us and to the Society.

Resolved, That in the death of Dr. Stone the profession in this city has had removed from its midst an accomplished member of it, who was both a high-toned, courteous gentleman, and a most agreeable companion.

Resolved, That we commend to the younger members of the profession in this city, for their emulation, the many virtues of the late Dr. Stone: his love for his profession, his solicitude for its honor, his fealty to its ethics, his conscientious practice of it, his liberality to all of its organizations, having the well-being and elevation of its members for their object, his integrity in all things, and the honorable position he attained among his fellows and in the community where he had so long resided.

Resolved, That our profound and heartfelt sympathy with his family in this great calamity that has so suddenly befallen them be assured to them; and that the Secretary of this Board be directed to transmit to them a copy of these resolutions.

Resolved, That these testimonials of our love, respect, and esteem for our late associate in this Board of Managers be entered in the record of its minutes.

(Signed)
O. WHITE,
JAS. O. SMITH,
ISAAC E. TAYLOR.

Whereas, It has pleased an ALLWISE PROVIDENCE to remove suddenly from us our late presiding officer, John R. Van Kleek, M. D., whose labors as a member of the Board of Managers, and as President of this Society for two years, have contributed largely to the present prosperity of this institution: therefore—

Resolved, That we reverently bow to the wise behest of Him who has promised to be the widow's friend, and a father to the fatherless, and whose blessing is vouchsafed upon all efforts of benevolence.

Resolved, That in the death of Dr. John R. Van Kleek the medical profession has lost one of its most worthy members, one who was ever watchful of its best interests, and whose earnest and thoughtful labors have done much to preserve its institutions and harmonize its interests.

Resolved, That we tender our heartfelt sympathy to the members of his family, with the assurance that he has endeared himself to the whole profession, and bequeathed an honorable example worthy of the imitation of all its members.

Resolved, That a copy of these resolutions, properly authenticated, be communicated to the family of our late President, and that the same be published in the medical journals of this city.

SAMUEL S. PURPLE, M. D., } *Committee.*
O. WHITE, M. D., }

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department of the United States Army, from June 14 *to July* 13, 1876.

KIMBALL, J. P., Assistant Surgeon.—To accompany battalion of Twenty-second Infantry from Forts Brady and

Mackinac to Fort A. Lincoln, D. T., for duty under General Terry. S. O. 127, Military Division of the Atlantic, July 9, 1876.

Harvey, Phil. F., Assistant Surgeon.—To accompany battalion Twenty-second Infantry, under command of Lieutenant-Colonel Otis, to Fort A. Lincoln, D. T., for duty under General Terry. S. O. 127, C. S., Military Division of the Atlantic.

Semig, B. G., Assistant Surgeon.—Granted leave of absence for one month, on surgeon's certificate of disability, with permission to leave limits of department and apply for an extension of two months. S. O. 70, Department of Arizona, June 2, 1876.

Swift, E., Surgeon and Medical Director.—Granted leave of absence for one month, with permission to apply for an extension of two months. S. O. 123, Department of the Gulf, June 30, 1876.

Tilton, H. R., Assistant Surgeon.—On completion of examination for promotion to proceed to headquarters, Department of Dakota, and to report to the Medical Director of the Department. S. O. 138, A. G. O., July 10, 1876.

Coues, E., Assistant Surgeon.—To report to Secretary of Interior for duty with the U. S. Geological and Geographical Surveys of the Territories, under charge of F. V. Hayden, U. S. Geologist. S. O. 134, A. G. O., July 3, 1876.

Tesson, L. S., Assistant Surgeon.—To accompany battalion Fifth Infantry, under command of Col. N. A. Miles, to Department of Dakota. S. O. 139, Department of the Missouri, July 8, 1876

McCormick, Charles, Surgeon.—To proceed to New York City and there await orders. S. O. 123, A. G. O., June 20, 1876.

Head, J. F., Surgeon and Medical Director.—Granted leave of absence for two months and fifteen days, with permission to go beyond sea. S. O. 120, A. G. O., June 14, 1876.

Clements, B. A., Surgeon.—Assigned to duty as Post-Surgeon at Fort Sanders, Wy. T. S. O. 92, Department of the Platte, July 7, 1876.

Sternberg, George M., Surgeon.—Assigned temporarily to duty as Attending Surgeon at these headquarters. S. O. 74, C. S., Department of the Columbia.

Brewer, J. W., Assistant Surgeon.—Assigned to duty at Fort Boidger, Wy. T. S. O. 88, Department of the Platte, June 28, 1876.

Whitehead, W. E., Assistant Surgeon.—Assigned to duty at Camp Supply, Indian T. S. O. 131, Department of the Missouri, June 26, 1876.

Smart, Charles, Assistant Surgeon.—Assigned to duty at Camp Douglas, U. T. S. O. 88, C. S., Department of the Platte.

Bartholf, J. H., Assistant Surgeon.—Granted leave of absence for two months to visit Centennial Exhibition. S. O. 69, Department of the Columbia, June 3, 1876.

King, J. H. T., Assistant Surgeon.—Assigned to duty as Post-Surgeon at Fort Concho, Tex. S. O. 121, Department of Texas, June 30, 1876.

Cleary, P. J. A., Assistant Surgeon.—Assigned to duty at Fort Lyon, C. T. S. O. 131, C. S., Department of the Missouri.

Byrne, C. B., Assistant Surgeon.—Assigned to temporary duty at these headquarters. S. O. 104, Department of Texas, June 8, 1876.

Knickerbocker, B., Assistant Surgeon.—His resignation accepted by the President, to take effect July 1, 1876. S. O. 134, C. S., A. G. O.

Vollum, E. P., Surgeon.—Assigned to duty at St. Louis Barracks, Mo. S. O. 121, A. G. O., June 16, 1876.

Horton, S. M., Assistant Surgeon.—Granted leave of absence for four months. S. O. 123, C. S., A. G. O.

Woodhull, A. A., Assistant Surgeon.—Leave of absence extended one month. S. O. 121, C. S., A. G. O.

Jaquett, G. P., Assistant Surgeon.—Granted leave of absence for four months. S. O. 115, A. G. O., June 9, 1876.

Caldwell, D. G., Assistant Surgeon.—Leave of absence extended two months. S. O. 137, A. G. O., July 8, 1876.

Bentley, E., Assistant Surgeon.—Granted leave of absence for six months. S. O. 137, C. S., A. G. O.

Weisel, D., Assistant Surgeon.—Assigned to duty at Fort Canby, W. T. S. O. 69, C. S., Department of the Columbia.

Cherbonnier, A. V., Medical Storekeeper.—Granted leave of absence for one month. S. O. 123, C. S., A. G. O.

Obituary.

Prof. Stromeyer died suddenly of apoplexy, June 15th, after an extraordinarily active and successful professional career. Two years ago he published his autobiography, under the title of "Recollections of a German Surgeon." He had been the recipient of the highest honors.

Dr. Strobridge Smith, who died at Wappinger's Falls, Dutchess County, N. Y., June 9th, was born at Crown Point, N. Y., in 1828, began the study of medicine in 1843, and graduated at the Castleton Medical College, in Vermont. After practising medicine in Ticonderoga for a period of three years, he removed to this city, and attended lectures at the New York Medical College, from which institution he received a diploma in 1855, entering upon the practice of his profession here. He occupied several prominent positions, and enjoyed a large and lucrative practice. During the late civil war he was appointed Surgeon to the Ninety-third Regiment New York State Volunteers, and served with his regiment in Virginia. He was subsequently appointed Medical Director of a Division in the Army of the Potomac. As an honorable gentleman and skillful surgeon he became a favorite of the commanding officer and won the respect of all who knew him. After leaving the service he traveled abroad, and during his residence in Paris made a special study of diseases of the eye and ear. Returning to this city, he continued the practice of medicine and surgery, but, his health not permitting a residence here, he decided to remove to the country, and finally settled in practice at Wappinger's Falls, N. Y.

Prof. Pétrequin, a distinguished surgeon of Lyons, France, died June 2d, in the sixty-seventh year of his age.

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Original Communications.

ART. I.—*Thoracentesis; with Illustrative Cases.* By S. C. CHEW, M. D., Professor of Therapeutics and Clinical Medicine in the University of Maryland, Baltimore, Md.

OUR knowledge of the pathology and diagnosis of pleurisy is so extensive and accurate that the discussion of these subjects is hardly called for. I shall, therefore, refer to them only incidentally in this paper, and consider chiefly some questions connected with the treatment of the disease.

The therapeutic measures proper to the various stages and conditions of pleurisy have been the subject of much controversy, and involve some questions of great interest, about which there is even now very earnest dispute.

The questions I refer to are these: When a pleurisy is encountered in which effusion has taken place to such extent as to cause dullness and absence of respiratory murmur over the greater part or the whole of one side of the chest, is medical reatment to be discarded and the assistance of surgery invoked? Should the presence of fluid in large amount be conidered as *ipso facto* and independently of accompanying cirumstances an indication for surgical interference; or is it ossible to obtain in this stage, from medical means in the trict sense, better results than those promised by surgery?

Are we to regard the operation of paracentesis of the thorax as in all cases justifiable and advisable when the effusion has reached any considerable amount; or is it to be resorted to only in certain special conditions, the larger proportion of cases being best dealt with by medical means?

Of late years, and more especially since the publication of Dieulafoy's work, the operation has been strongly advocated as a measure generally applicable to all cases of pleurisy; but I am fully persuaded that the advocacy of this measure has been carried too far, and that there is need for a recall from the shorter and apparently more attractive course of surgical procedure to the older and more reliable methods of medicine. It is not meant here to undervalue the operation of paracentesis in cases to which it is really adapted, for it undoubtedly affords at times the only hope of restoring the function of a lung and thus of ultimately saving life; and, in other cases where respiration is seriously embarrassed by a sudden effusion, it may give deliverance to one who is ready to perish.

But with due regard to such cases, and speaking from considerable personal experience in the operation, and from observation of its effects as used by others, I think that there are limits beyond which its use cannot be carried except at the risk of doing more harm than good. It is as important a point of therapeutic knowledge to be aware that many cases will recover without tapping as that some imperatively require the operation. The application of the principle of pneumatic aspiration for the removal of fluid from the closed cavities and other deep portions of the body has rendered the surgical treatment of pleurisy much simpler than it formerly was, and has done away with that special danger of the operation which was found in the possibility of air entering into the pleural sack. But it is certainly questionable whether the very readiness with which the operation is performed may not lead to an undue, not to say reckless and dangerous, use of it. The ease with which a thing is done may cause a proneness to do it; and it may happen in medicine as in morals that

> "Oft the sight of means to do ill deeds,
> Makes deeds ill done."

As for the operation of thoracentesis in itself, it is by no means a grave one; and while it may accomplish remarkable physical results in the removal of a large quantity of fluid, yet, the more obvious and striking these are, the simpler is the operation, for the larger the amount of fluid contained in the chest, the easier is the diagnosis of the condition, and the greater the assurance that the needle or trocar will enter the fluid only and will not pierce the lung.

The real importance of this operation is found in the facts that life may be saved by it in conditions of extreme peril, and that it presents an available measure when medicine fails to give relief. These propositions I shall illustrate presently by cases directly in point. As there are conditions, then, in which aspiration is not only indicated, but is altogether the only resource at our command, it is highly important to determine what those conditions are.

Because it is an advisable and salutary measure in some cases, it seems to have been too hastily inferred that it is advisable and salutary in all; and there is thus furnished another one of the many instances of a tendency to hasty generalization, of which the annals of medicine are only too full.

Look at some of them in the past and in the present. Febrile symptoms were found associated with gastric and enteric inflammation; and from these cases Broussais too quickly inferred that gastro-enteritis is the essential and underlying cause of all fevers.

A congested spleen is often found in malarious disease; and Piorry, forming a hasty generalization, and adding to this the additional fallacy of confounding effect and cause, proclaimed enlargement of the spleen to be the pathological condition upon which all the symptoms of intermittent fever depend.

Alcohol is certainly of immense value in certain forms and stages of pneumonia and other inflammatory diseases; and, through this same tendency to generalize, the stimulant school of practitioners have contended that all inflammations are to be treated with alcohol as the most potent of apyretics, and of universal application in all phlegmatiæ.

Hasty generalization and illogical inference are no doubt the greatest obstacles to real progress in any science. It is alleged, and not without some reason, that the advance in medicine is not commensurate with that which other sciences have made in recent years; yet it would be easy to find, on the part of some of the most distinguished votaries of other branches of physical science, instances of as shallow philosophizing as any that have retarded the development of medicine.

A leader in modern biology maintains that the whole idea of the relation of cause and effect is an assumption and a delusion; thus denying a primary concept of the mind, because it is inimical to his own theory. And another eminent writer, who occupies a foremost place among physicists, warns his hearers against accepting, on the authority of Newton, a proposition relating to spiritual truths, on the ground that Newton, having been mainly occupied in a different sphere of thought, was disqualified for forming a judgment upon such matters. With what incisive force the *argumentum ad hominum* might be directed against himself, this eminent writer apparently does not see.

While we admit that there are shallows and quicksands in medical philosophy, we may be pardoned for deriving consolation from the reflection that flippant and foolish reasoning may be quite justly imputed to some who are esteemed lights of science beyond the pale of medicine.

To return, however, from this digression to our theme.

There are three classes of cases in which the question of pneumatic aspiration of the thorax must be entertained.

I. The first consists of those cases in which a large pleuritic effusion has suddenly occurred, and has overwhelmed the function of one lung before there has been time for the supplementary action of the other to be brought fully into play; or again, where hydrothorax, as distinguished from pleuritic effusion, has occupied both sides of the chest in such amount that respiration is dangerously embarrassed. In this class of cases the aspirator must be immediately used, because there is no time for medical means to act, and we are to be guided not by the auscultatory signs alone, but by the clinical conditions of the case.

II. The second class is composed of cases in which, judging from the physical signs alone, we might be tempted to use the aspirator, and are certainly bound to examine carefully whether the conditions requiring its use actually exist, but in which the clinical state is found on such examination not to demand immediate interference with surgery. For respiration may not be seriously embarrassed, even though the effusion be very large; the rapidity with which it has occurred being a more important factor in the production of dyspnœa than the amount. In these cases, if the condition has not continued long, it is best to use medical means, of which the most efficient are the tincture of the chloride and the syrup of the iodide of iron in doses of from half a drachm to a drachm; and, notwithstanding that their efficacy is denied by some distinguished authorities, I make bold to urge the repeated application of fly-blisters. These agents are, I am sure, of great value; whether they act by a direct stimulant influence upon the absorbents, or by merely removing serum from the capillaries of the chest-wall, and thus rendering them better instruments for absorption, or yet, again, by an action on the vaso-motor nerves, are questions of interest, it is true, but of secondary importance to the general one as to whether they do good clinically; and, that they do, I am fully convinced. For, though I have used them always of late years in conjunc-ion with iron, yet I have seen the line of dullness fall so apidly under this treatment as to feel sure the change was due more to the blistering than to the small amount of iron as yet taken. Yet the ferruginous medicines perform an important part by increasing the solid elements of the blood, nd thus lessening the tendency to transudation, while, in irtue of their diuretic action, they help to remove what has lready accumulated.

But it is contended by some that, even in these cases where iere is no urgent need for interference, results better, because uicker, can be gotten by an immediate resort to aspiration, istead of waiting for the slower influence of medicine. It iould, however, be borne in mind, that in adopting the iedicinal treatment we are effecting relief in the same way when the case recovers spontaneously.

If the vessels of the pleural surfaces, on the removal of the fluid, remain still in the same condition in which they were when it was effused, it will continue to be formed, and the operation must needs be repeated as long as the effusion goes on; whereas, when the removal takes place by absorption, the pathological action is changed, and the tendency to effusion has ceased.

Again, if adhesion of the compressed lung has taken place, the sudden entrance of an increased amount of blood into the vessels of the lung, and of air into its vesicles, may produce a strain upon the lung tissue left unsupported by the withdrawal of the fluid that has been pressing on its surface; and thus may be explained the sense of painful constriction, with tendency to syncope, from which patients sometimes suffer under these circumstances. This occurrence, so often observed in cases which ultimately do well, may indicate in less degree a condition of things which in greater degree may prove dangerous.

Deaths occurring suddenly or rapidly, during or shortly after the operation of thoracentesis, have been reported in French medical journals within the last year, and have given rise to important discussions in the Medical Society of Paris and in the Pathological Society of London. Opinions have varied as to the way in which the operation may have occasioned death, some attributing it to cardiac syncope, from the withdrawal of accustomed pressure on the heart—others to cerebral anæmia, from the rapid afflux of blood to the expanded lung.

The statement has been made, and a most significant one it is, if proved by accurate statistics to be true, that there has been an increase in the mortality from pleurisy since thoracentesis has been more generally practised. Granting this to be true in even greater degree than is at all likely, it would not follow that the operation should be abandoned, for the greatest triumphs of surgery are won by operations admitted to be perilous, but affording a prospect of rescue from greater peril. But the consideration of even slight danger should teach us that thoracentesis is not to be used indiscriminately as a thing of mere routine; and it should certainly make us give due weight to what can be accomplished by medicinal means, in imitating and aiding the curative action of nature. For nature cures pleurisies, in the many cases in which they get well spontaneously or under the influence of medicine, by the fluid being absorbed and not directly evacuated.

III. The third class of cases consists of those in which, as in the first class, thoracentesis is plainly required as the only means likely to afford relief. Into this category some cases belonging to the second class just spoken of may pass; cases, that is, in which although at first there may have been a well-founded belief or hope that they would recover under medical treatment, yet either this hope has been proved by time to be fallacious, or the cases when first seen by the physician have manifestly passed beyond the period within which it would be worth while to wait longer for the action of medicine. For here there may be risk of ultimate danger accruing to the lung through long-continued pressure causing carnification. In this third division I would place also those cases in which there is good reason to believe that the effusion is purulent; hence the importance of being able to decide this question with certainty; for, the purulent nature of the fluid once determined, it is useless to continue medication with a view to its removal. Nothing remains but mechanical evacuation. In any case where the fluid is suspected to be pus, an exploratory puncture may be made with a fine aspirating needle, which may thus be a diagnostic as well as a therapeutic means.

But it is sometimes desirable to determine this question beforehand, inasmuch as a patient may be more willing to submit to the operation, if he knows that the fluid is of such character that absorption cannot be expected.

With this view, the method recently suggested by Prof. Baccelli, of Rome, certainly promises assistance to our diagnostic means. "It is founded on the physical law"—I quote from the article on the subject in the *Medical Times and Gazette* of March 18, 1876—"that the vibrations of sound in liquids are transmitted *inversely* to their density. In a serous fluid, therefore, the sound passes more readily than in a purulent; and it is found that whereas the whispered voice can be heard clearly, accompanied with bronchial expiration at the base of a *serous* effusion, the spoken voice is not transmitted, nor bronchial breathing heard over a *purulent* exudation." Perhaps this is a somewhat exaggerated statement of the case, but there is certainly a marked difference in the vibrations transmitted through the two fluids respectively. We have, therefore, in feebleness or absence of vocal or respiratory sounds, a highly probable indication that the fluid is pus, and an earlier sign of empyema than the occurrence of hectic fever, the continued presence of the unabsorbed effusion, and other general symptoms.

The several conditions, then, which I would group together in the third class as clearly requiring the use of the aspirator, are these:

1. Where the purulent character of the effusion is indicated with certainty or with high probability.

2. Where an effusion reaching half-way up one side of the thorax is undiminished by medical treatment persistently applied for three or four weeks; and, *a fortiori*, if it have increased in spite of such treatment.

3. Where with a large effusion, previously not alarming in character, sudden and urgent dyspnœa has occurred. Lives have, no doubt, often been lost from the operation having been delayed or not performed in such conditions; but, with its use, under the most threatening circumstances, prompt relief and deliverance have many times been given.

The following cases are selected as illustrations of the principles of treatment that have been referred to, and of the conditions which are to be regarded as respectively indicating or not indicating the use of the aspirator. As to the first class, I would remark that they very seldom require tapping; and I have never had occasion to use this measure in treating such cases. The urgent dyspnœa which sometimes comes on early in pleurisy, even when the amount of effusion is not large, generally abates pretty soon by the supplementary action of the other lung being established; and it may often be promptly relieved by an hypodermic injection of morphia; and cases of hydrothorax are in general better treated by diuretics or hydragogue cathartics, especially elaterium, which drains away the fluid with astonishing rapidity, and thus produces marked relief. But, when the pleuritic effusion is at once very large in amount and rapidly poured forth, it may become necessary to tap from the urgency of the symptoms; and in hydrothorax there may be occasionally need for the same interference when the effusion rises rapidly on both sides. Such cases are, however, exceptional.

Case I.—W. S., about twenty-five years of age, entered the hospital of the University of Maryland, in my service, on the 26th of February, 1876, complaining of slight shortness of breath, which had not been preceded by pain nor caused him to suspect any serious trouble in the chest. He had been much exposed to wet and cold in prosecuting his business, which was that of an artesian-well borer.

On examining his chest I found the left side flat upon percussion from diaphragm to clavicle; vocal fremitus absent; respiratory murmur inaudible; and on the right side puerile respiration was well marked. On measurement the left side was found to exceed the right in bulk by one inch and a quarter. The physical signs thus showed plainly the existence of large pleural effusion; but as there was little discomfort, and the dyspnœa was so slight that the patient could sleep all night in the recumbent posture, the clinical condition did not require the use of the aspirator, and I determined to try medical treatment alone, directing thirty minims of the syrup ferri iodidi to be taken three times a day, and a fly-blister, six by eight inches, to be applied to the lateral and posterior surface of the left side. The blister drew freely; and, before the surface to which it was first applied had healed, it was again placed upon the anterior part of the same side. In five or six days from the commencement of treatment the dullness under the left clavicle had sensibly diminished, and a respiratory murmur of a broncho-vesicular character was feebly audible. This was regarded as an indication for persevering in the medical treatment, and fortified the opinion that aspiration was not required. The iron was continued, and the blister reapplied at different places several times.

In three weeks the line of dullness had fallen to the top of the middle third of the chest, respiratory murmur being distinct above that line; and the difference in bulk between the two sides was reduced to three-quarters of an inch. The dullness continued to diminish slowly, and vesicular murmur became more generally diffused over the chest, when on the 15th of April the patient left the hospital, still presenting at that time some dullness and feebleness of respiratory murmur at the base of the left side. On the 1st of June he returned for examination, when all signs of the effusion had disappeared. The case is interesting as presenting a condition in which the auscultatory signs alone would suggest the use of the aspirator, while the general clinical condition warranted the trial of medical means, under which perfect recovery took place.

Case II.—D. W., about twenty-eight years of age, came to my office to consult me on the 15th of October, 1875. He had recently returned from travel in Europe, and, though of rather delicate constitution, had enjoyed pretty good health until about ten days before he applied to me, when being overheated by a long walk he lay for some time upon the damp grass, and in a few days began to experience shortness of breath, chiefly noticeable on going up-stairs. He had had no chill, and, having felt no pain in the chest, he was surprised when I informed him that his right side was the seat of large effusion. This was rendered evident by dullness throughout its whole extent, absence of respiratory murmur and vocal fremitus, and the existence of well-marked œgophony at the upper part. Under the use of syrup ferri iodidi and the repeated application of blisters, improvement in resonance in the subclavicular region, with distant and feeble respiratory sound, became evident in about ten days. At the end of three weeks the dullness was limited to the lower part of the posterior region of the right side, and was attributable mainly to thick, fibrinous deposit, inasmuch as vesicular murmur was comparatively clear. The patient made a good recovery, and has lately gone again to Europe.

This case, like the last, was one of latent pleurisy, in which the auscultatory signs showed effusion so large as to suggest the possible necessity of aspiration, but which nevertheless cleared up perfectly under medical treatment.

Case III.—H. Y., aged about forty-five years, a native of

Alsace, presented himself at my clinic at the University Hospital, May 23, 1876, suffering with urgent dyspnœa, about the origin of which he gave no clear account, but which, according to his report, had increased to such degree that for four months he had been unable to lie down. On inspection, the right side was manifestly larger and more rotund than the left, its measure being an inch and a half greater, and the intercostal spaces were effaced. Percussion sound was perfectly flat on this side from the base to the summit of the chest; respiratory murmur and vocal fremitus were imperceptible, and the heart was displaced beyond the left mammary line. The physical signs thus established the diagnosis with precision; but the clinical condition put the case in a different category from those related above, and demanded mechanical relief; for, with such impairment of respiration, rapidly fatal dyspnœa might occur at any moment, and the danger was increased by the dislocation of the heart, and the great pressure to which it was subjected. I therefore decided to aspirate the chest; and, introducing a No. 2 needle in the eighth intercostal space, just below the angle of the scapula, I drew off eighty-one ounces of yellow serum, in which pus corpuscles were beginning to appear, but were not present in sufficient number to give the fluid a purulent character. The patient bore this without the least sense of constriction, such as is often felt when so large an amount is removed at once. The lung expanded somewhat, but not perfectly, after the removal of the fluid, the respiratory sound being plainly audible, but distant and bronchial in character; the heart removed partially but not completely into its normal place. But the clinical condition was immensely improved; the dyspnœa, which had been extreme, disappeared entirely, and on that night the patient slept lying on his back, for the first time, as he assured me, for four months. In six days he left the hospital, declaring that he felt well, and has not returned.

In this case the operation was resorted to, not so much as a curative means, as for the purpose of rescuing the patient from great peril—which was accomplished. Life was, I believe, saved by the operation, and could have been saved by no other means; but the functional integrity of the lung was not restored, as it was in the two former cases, in which medical means alone were used.

Case IV.—On the 9th of August, 1875, I was requested by Dr. J. E. Gibbons, of this city, to see with him a little boy, aged three years and eleven months, who was the subject of empyema of the right side, for which he had already been tapped with the aspirator three times, twice by Prof. W. T. Howard, and once by Prof. F. Donaldson. Learning that each operation had been followed by reaccumulation of the purulent fluid, I determined, before resorting to a drainage-tube, to try the effect of an injection into the chest-cavity, with the view of altering the condition of the pleural surfaces, and, if possible, bringing about adhesive inflammation. The entire right side was flat upon percussion, the intercostal spaces distended, and the breathing labored and accompanied with incessant cough. I introduced the needle of the aspirator near the angle of the scapula, and removed forty ounces of pus, a quantity which would very completely fill one side of the chest in a child of this age. There was evidently no adhesion, for the lung expanded freely, loud respiratory murmur and perfect resonance being at once established.

Without removing the needle the action of the pump was now reversed, and three ounces of tepid water injected, containing one drachm of the following solution:

Liq. iodinii comp., ℥ ij.
Acid. carbolic., ʒ ss. M.

The dyspnœa was at once relieved by the tapping, as it had been by the previous operations; but for several days there was high fever, probably attributable to the injection. By September 10th, reaccumulation had, however, taken place to such degree that another operation was necessary, which was performed by Prof. Donaldson. It was noticeable that the fluid had undergone a change in character, being of thinner consistency than before; and from this time the child recovered perfectly, and is now entirely well, as is shown both by the general condition and appearance, and by the normal respiratory murmur and resonance over the whole of the previously affected side.

This case is of peculiar interest, from the age of the patient, the very large purulent drain from the system—two hundred and eight ounces in all—and the entire restoration of the function of the lung.

Dr. Peacock, of Victoria Park Hospital, London, has lately published a case of empyema in a child three years and a half old, relieved by paracentesis, but resulting in contraction of the side and a fistulous opening. In the case I have here reported, the contour of the chest and the action of the lung are as perfect as though no disease had ever existed; and I am inclined to attribute the result mainly to the iodine and carbolic acid injection; for although the thorax filled up once more after this application, yet the appearance of the fluid at the last tapping showed that an alterative influence had been exercised upon the secreting surfaces, so that, when they were again brought into contact with each other, adhesion probably took place. Boinet was, I believe, the first to employ iodine injections in chronic pleurisy, and he claimed that with them "cures were possible even in cases supposed to be necessarily mortal." His practice was followed by M. Aran in France, and by Dr. Brainard in this country. This latter gentleman reported, many years ago, a case of empyema caused by a wound with a knife, in which a solution of one grain of iodine and three grains of iodide of potassium in an ounce of water was injected into the pleural sac twice a day, with perfect success.

Many other cases have been reported, with results similar to what occurred in the child whose history is here recorded. I think it best to make use of the iodine injection several times, without resorting too early to the drainage-tube, which at best leaves a fistulous opening of long continuance. The aspiration facilitates the injection very much, as all that is required is to reverse the pump without withdrawing the needle. I have never known a more gratifying therapeutic success than the case of this little child has afforded; for what with extreme dyspnœa, incessant cough, hectic fever, and abdominal dropsy, with anasarca from pressure on the great veins, it presented almost as hopeless a prospect of relief as I have ever had to contemplate; and it is now perfectly well.

Art. II.—*The Therapeutical and Social Aspects of the Alcohol Question.* By Thomas J. Mays, M. D., Upper Lehigh, Pa.

Although there are millions of honest and faithful men and women in this country who have enlisted their combined energy in the service of alleviating the evils and miseries caused by and resulting from alcoholic intemperance, yet it is a deplorable fact—one avowedly admitted by them—that the evil instead of diminishing, is on the increase. A visitation of cholera, yellow fever, or small-pox sends its ruthless and thrilling impulse almost instantaneously across the length and breadth of our land; but when a stealthy, insidious malady gnaws and saps the vital foundation of society on our every side, we stand as complacent lookers-on, sanction it by our silence, and deceive ourselves with the delusion that because it is slow in its growth it cannot be so widespread—in fact, we are so accustomed to it that our senses become blunted, and refuse to impress themselves with the real condition of the calamity. And when an army of fifty thousand human beings is swallowed up yearly by this terrible quagmire of destruction, as the statistics of our land are said to prove, before which figures the fatal ravages of cholera and all our other epidemic diseases combined dwindle into almost absolute nothingness, we think the subject of sufficient importance to bring it before this able body of workers in the cause of mitigating human suffering. In truth, we look upon the medical profession as the only power capable of giving an efficient and rational solution to this vexing and much-abused problem.

When such an inconceivable amount of money, time and labor has been lavishly expended upon anything as there has been in the endeavor to counteract the mischief of alcoholic intemperance, without producing any beneficial results, we may at once conclude that there is some radical and fundamental error in the method of relieving the malady; that a proper diagnosis has not been fully worked out, and that the remedy which has been applied is not suited to the case.

The hottest contest in the discussion of alcohol is as to the relation which its action sustains to the human system.

On one side stand those who hold that alcohol is a poison, that it has no other than a coagulating action on the albuminous tissues of the body, thereby preventing the usual amount of tissue metamorphosis; that it excites and exhilarates the bodily functions for the time being, but is always followed by a greater depression; and that the only way to prevent its abuse is to eradicate and abolish it totally. While on the other hand are those who hold that alcohol acts in the same manner as ordinary food, and that its abuse can be rectified by a thorough knowledge of its good and evil effects on the human body.

That alcohol in some manner availably affects the process of nutrition and of oxidation in the body is no longer doubted, and is admitted by some of its most violent opponents; but the way in which this is brought about is still an unsettled point. To our apprehension, alcohol or any other substance can only assist or promote the processes of nutrition and oxidation in one of two ways: 1. By retarding or interfering with these processes in such a manner that the same amount of nutritive material which is ordinarily supplied is more sparingly utilized, and thus serves for a longer period than it could without the influence of such an agent; or, 2. By becoming a material of nutrition and oxidation itself, or, in other words, a food.

No more positive proof of the efficacious character of alcohol can be presented than that of its influence in the treatment of acute fevers, whose speedy course and extensive tissue-waste rapidly exhaust the forces of the body supplied by the ordinary food. Here alcohol comes to the rescue, checks the ebbing stream of life, and supports the drooping energy of the body through that perilous stage—the crisis—where other means are of little or no avail. This remarkable life-sustaining power of alcohol must force itself upon the attention of every one, even on those who are no more than superficial observers. Now, it is self-contradictory to maintain that alcohol supports life by its supposed power to prevent the waste of tissue, for the very existence of life, even the remnant of life in severe cases of fever, depends upon a more or less healthy tissue metamorphosis, and anything that interferes with this process will just in that proportion destroy life. This application in the case of fever does not appear so striking as it does in other low forms of disease not associated with an elevated temperature and rapid tissue change, for in opposition, apparently, it may be truly said that to stop the excessive tissue-waste is one of the strongest and most important indications in the treatment of fevers. So it is; but, without foreshadowing our opinion of the therapeutical action of alcohol in fever, it is extremely doubtful whether its good results are brought about by its presumed anti-waste action. And then alcohol is employed in disease where no excessive tissue-waste exists, but a tissue metamorphosis barely sufficient to support life is present, and how can, and where does, the anti-waste action of alcohol come into play here and bring relief to the diseased body? And again, they say, give a laborer three drinks of brandy a day, and by its retardation of tissue and chemical changes it will enable him to perform more work than he can do without it. Now, if it is a physiologic axiom that work implies a chemico-tissue change, then a greater amount of work must imply a greater amount of chemico-tissue change, and to expend a greater amount of labor or work with a diminished degree of chemico-tissue change is a physiological inconsistency.

In order to speak of the action of alcohol on the human system in an intelligent and fair manner, we must pursue the same method as we do in describing the action of any other substance on the animal economy. We certainly may doubt the statement that alcohol has only one general mode of action, for it is a distinctive feature of many useful dietetic and medicinal substances to vary in effect in accordance with the quantity employed; there is not only a difference of effect in degree, but a difference totally in kind. Common salt in small doses is an indispensable article of food, without which our bodies would suffer very materially; in medium doses it is a safe and valuable emetic, while in large doses it is a most violent and irritating poison. Iron in small quantities is an important adjunct to our food, for it is this which gives the blood a red, healthy color; yet in large doses it produces fatal inflammation of the stomach and bowels. Arsenic in large doses causes congestion and inflammation, while in small doses it has a reverse action, and very often alleviates this very same morbid condition. Ipecacuanha in large doses causes most intense vomiting; yet in small doses it frequently relieves this very same disorder. This same qualitative difference in action is equally true of alcohol. There is not a difference of degree at all between large and small doses of alcohol, but their effects stand in opposite polar relations—one pole neutralizing the other. In fact, this twofold action of alcohol becomes a principle in the treatment of disease, and small doses are employed to counteract the morbid effects of large doses. In the treatment of alcoholism, or delirium tremens, small doses are prescribed in order to stimulate and uphold the wrecked and paralyzed brain and nervous system. It would, indeed, be irrational and like adding fuel to the flame if we believed that alcohol possessed only one mode of action, and still persisted in administering it in a disease produced by its own instrumentality.

From the latest scientific development of this question we are led to conclude that alcohol in small quantities is a stimulant, or food (using the terms food and stimulant as synonymous), and in large doses a narcotic. To say that alcohol is a food requires, perhaps, a definition of the term food. At random we might say, and partly be correct, that all substances which undergo a chemical change in the body are foods, but this does not include water, an important factor in the process of nutrition, which does not undergo a chemical change in the body ordinarily. It is necessary, then, to give a still wider and broader definition to the term, so as to include all substances which go to nourish the body. This is attained by defining food as anything which is capable of supporting life, or any material which is essential to sustain the vital functions, and this embraces air, water, ordinary foods, etc. All albuminous and hydro-carbon foods undergo chemical changes in the body, enter the body as such, and are excreted as urea, carbonic acid, and water. Alcohol in small doses acts in precisely the same manner; it goes into the body and is not excreted by the skin, lungs, bowels, or kidneys as such, but leaves it as carbonic acid and water. Now, it is a fundamental law in chemistry that, if a substance falls from a higher to a lower position on the chemical scale, it gives out force; and if alcohol changes its chemical nature in the body, as recent investigations show us, it must give rise to force which is or can be appropriated for the performance of vital functions—a supply of power which the body expends in doing work. And recent researches do not only demonstrate that alcohol acts in the above manner, but also that it is found as a normal ingredient in the body of some men and animals who are undoubted total abstainers; and from late experiments we also learn that it exists in our ordinary bread to such an extent that, after a person has eaten one hundred pounds of fresh bread, he has consumed a little over five ounces of pure alcohol.

In large doses alcohol is a narcotic, and the line of demarcation between the stimulant and narcotic action of alcohol is just as distinctly and decidedly manifested in its effects on the human system as the difference is marked between the effects of small and large doses of ipecacuanha in relieving and causing emesis. Whenever more alcohol is introduced than the body is capable of utilizing in the processes of nutrition and oxidation, the surplus remains diffused throughout the blood and tissues, undergoes no chemical change, gives out no force, and paralyzes the whole nervous system. The most early indication of the narcotic effects of alcohol is a warmth and flushing of the face, owing to the paralyzed and dilated condition of the facial blood-vessels, followed by an increased excretory flow from the skin and kidneys. The increased amount of excretory material, however, is not due to an augmented normal condition of these organs, but rather to the fact that the nerves which supply their blood-vessels are paralyzed to such a degree that these vessels distend and allow their contents to escape more freely than in health. The more highly developed faculties of the brain, such as reason, judgment, will-power, etc., also become involved at a very early stage of the narcotic poisoning, thus unbridling the lower appetites and passions, and abandoning them to their own unrestrained recklessness. This, when coupled with the fact that the hypoglossal nerves preside over the movements of the tongue, and likewise share a similar and early fate, gives an intelligent explanation and due significance to the well-known phenomena of the violent and boisterous behavior, and of the incoherent and random speech observed in most cases of alcoholic inebriation. And this seemingly has the appearance of an exalted condition of the functions of the brain; but on close analysis it turns out to be nothing else than a liberation of the animal side of our nature, during a time when the higher and moral functions of man are taken captive and paralyzed by alcohol. This condition of things, as more alcohol circulates through the system, will continue until the occurrence of partial or total coma.

There is a distinct and sharp line of difference, and no border-land, between the good and bad effects of alcohol, which cannot be mistaken by any one who is the least conversant with the laws of his own body. Alcohol when taken in small doses for all purposes acts as a food, supplies material for carrying on the normal functions of the body, and the best token of its beneficiary character is when we are as unconscious of its action as we are after a healthful meal, which revivifies our bodies unfelt and unknown to us; while on the other hand, if imbibed too freely, it does not only not supply any material for oxidation and nutrition, but it deteriorates the textures of the body, particularly the nervous, and invariably destroys the harmony of the bodily functions. Alcohol can be used right just as well as wrong, and it is only when taken in narcotic and not in stimulant doses that it becomes the alluring cup, dragging its victim to certain destruction. It is only when abused, and not when used properly, that the system becomes accustomed to its deleterious effects and requires an increased quantity to produce equal effects from time to time.

It is not strictly true that a large or excessive dose of alcohol produces any stimulating primary effects and depression afterward, but it is a process of enervation and depression from the very time that the large dose is absorbed. However, from the very nature of things, it is impossible for a large or a small quantity to be taken up by the blood immediately after being swallowed; hence there is always a slight stimulation at first, even if an excessive dose be present in the stomach; but this is due only to the smallness of the quantity absorbed, and will vanish as soon as the blood has taken up the whole, which takes only a very limited time if no obstacle such as food or disease is present.

The action of alcohol on the walls of the stomach requires to be brought into consideration, and we shall find that the same rule which governs its action in other parts of the body also holds equally true here, viz.: that small doses produce healthful, and large doses harmful effects. It is hardly possible that the total-abstinence people could have invented the unfounded notion that alcohol on being taken into the stomach, in whatever quantity, coagulates the albumen of that organ, and thus destroys its function of digestion; since it is a fact comparatively long known that the action of alcohol on the stomach in small doses is similar to that of our ordinary food. When a small quantity of alcohol comes in contact with the pale gastric mucous membrane, the blood-vessels dilate, the surface attains a rosy hue, and its glands secrete a profuse quantity of gastric juice, in precisely the same manner as in the case of food. But the condition of the stomach becomes wholly changed on the introduction of larger quantities of alcohol. The rosy color of the mucous membrane fades, and the secretion of gastric juice is suspended, and in this condition of things *only* does the albumen of the stomach become coagulated. This has been well observed through a gastric fistula. Such is the action of alcohol on the human body, briefly described, as indicated and confirmed by the light of modern research—an instrument potent for good or evil; and how to obtain its good and avoid its evil effects it shall be our endeavor to point out in the succeeding part of this paper.

The important phase which arises in the discussion of alcohol is, whether it is of any service to the advancement of the human race. If it is not, then it stands in the same position as any other evil from which no possible good can be derived or expected, and the sooner it is crushed out of existence the better. If it is, then it clearly follows that, in order to obtain its usefulness and prevent its abuse, we must possess a full knowledge of the substance and its effect on the human body. There can be no midway ground between these two positions. It must either be a positive injury or a positive good. We hope that in the preceding pages we have given some ground for believing that alcohol is of the most momentous importance in treating disease; and the very fact that it is so employed by the medical profession everywhere is evidence of the most satisfactory kind that it is not detrimental to health. We hope we have not only been able to give proof that alcohol in small quantities has a beneficial action on the human system, but that it behaves like an ordinary food.

Since alcohol has been and is so notoriously and fearfully abused, and its evil effects are so cognizant to every one, people have in a great measure lost sight of its value and given it almost universal condemnation, and have hastily concluded that the only way to escape its direful effects was either wholly to abstain from or obliterate the article—the latter naturally following from the former, because abstemiousness could not be secured as long as alcohol was within reach; hence the cry of total prohibition. The endeavor, however, to crush anything useful is like trying to annihilate water or atmosphere by physical pressure, which eventually, after having lost its resilience, escapes through the meshes of the instrument threatening its destruction. So the idea of total prohibition has been a consummate failure whenever introduced and never fulfilled the wishes of the least hopeful of its originators.

There are many who concede that alcohol is a valuable medicine and should be employed in disease without hesitation; yet, forgetting that actually no sharp and permanent line can be drawn between health and disease, that according to circumstances it may vary in the same individual from day to day and even in the same day. The common laborer, who is liable to exposure and all sorts of privation, often does not receive the necessary supply of force which he is compelled to expend, from his perhaps defectively-prepared food, suffers a reduction of healthy capital in consequence, has learned from experience that a glass of beer causes him to feel better and also that it enables him to perform his work to better advantage to himself and to his employer, than he can without it. In such conditions of life as advancing years, and in debility arising from chronic disease, where a weakened state of the tissues and organs in general is present, alcohol can be habitually taken with decided benefit, stimulating the digestive and assimilative powers, as well as becoming a source of fuel itself. That form of dyspepsia which depends upon an atonicity of the gastric glands is often relieved by an ordinary dose of alcohol, which promotes a more healthy action of the gastric mucous membrane, a condition necessary to carry on the digestive function. Slight colic, diarrhœa, pain, and many other unimportant ailments of the body which are a trivial departure from health, and hardly ever come under the notice of the physician, are frequently and speedily relieved by a proper dose of alcohol. The great mass of the people know this, and that in some way they derive a positive good from the use of alcohol, and no amount of plausible reasoning will convince them of the contrary; and this uncertain and unfixed impression of the value of alcohol they have gained by a costly experience. A more concise and accurate knowledge of the article with which they were dealing would have saved many lives. But is it a wonder that they abuse it? nay, is it not a wonder that it is not abused a thousandfold worse? For how many persons are not only totally ignorant of the mode by which the beneficial effects of alcohol can be obtained, but are taught, by those who endeavor to control public opinion on this point, to believe that alcohol is a dangerous and poisonous substance not to be touched in any way whatever. This is lamentable, for any substance, however valuable, may be most shamefully abused through ignorance, and direful effects result.

The very admission that alcohol should be given under the direction of a competent physician is a tacit avowal that knowledge is a sufficient guide to obtain its beneficial action, for it is assumed that the medical man is in possession of this. Why not, then, strive to place every one in possession of that power which alone can regulate and control this agent? But objection may be made, that a knowledge of the good and evil effects of alcohol on the human system will not prevent its abuse. Why not, since inebriety is a recognized disease, produced, not by an intangible poison like cholera, yellow and typhoid fever, but by a poison which manifests itself to the senses of all, and must likewise be subject to preventive measures? And to what, then, shall we attribute all our advancement and achievements in hygiene, sanitary science, and in medicine, but to a knowledge of the cause, cure, and prevention of disease? We may safely say that through our knowledge of vaccination small-pox has become a scourge of the past; and the ravages of yellow fever and cholera appear less frequent, and are made less fatal by our knowledge of strict quarantine and of the enforcement of sanitary laws. Who will deny the great value of a thorough knowledge of ventilation, drainage, water-supply, food, etc., in relation to health, and that an educated sanitarian is far better fitted and more favorably situated to carry out the laws of health in his own body, and also to give advice to others, than a person wholly ignorant of the laws of hygiene?

That a knowledge of good and evil is a certain and infallible safeguard against the commission of evil by every person in every case, we are far from asserting, but there is nevertheless an unswerving and deeply-rooted principle in human as well as in animal nature, which incites the individual to do that which gives pleasure and avoid that which gives pain. This law is silently and gradually at work, eliminating all hinderances to progress, and is one of the chief causes in moulding and developing the race from its most primitive to its loftiest stage. It is very evident, then, that those individuals who have the most extensive cognition of themselves in relation to their surroundings, are better fitted to avoid that which causes pain, and to perform that which gives pleasure, and have a better opportunity to cope in the struggle for life than those not so conditioned; hence the highest accomplishment and worth with which we can endow and ennoble society is to place it in possession of a knowledge of those things which entail pleasure as well as those which inflict pain—in other words, a knowledge of the laws of life and of its environment.

In bringing this principle to bear on our subject, we would say that a complete professional knowledge of alcohol in its relation to the human frame is not required in order to apprehend its good and evil effects. The least flushing and warmth of the face, or the slightest increased action of the kidneys, is indicative that the substance has been taken in *narcotic* and *poisonous* doses, and should be a sufficient warning against a repetition of the same act. Alcohol is always injurious if its effects are visible directly after being taken; and is never so beneficial as when the individual is wholly unconscious of its immediate action. The feeling of relief and satisfaction which follows a good healthful meal should always be experienced after a necessary dose of alcohol. We say *necessary*, because alcohol should never be taken unless it is essential to *health*—unless there is present in the body or in its surroundings such a condition as prevents, or does not afford, a sufficient supply of force from ordinary food required in the expenditure of physical and mental work; for it is a substance of fulminating power, and, wherever it expends itself, will leave its impress for good or evil. Taking alcohol when not demanded by the system is like eating without hunger, and is invariably followed by deleterious results. Alcohol should be looked upon as any other familiar household remedy, and be ready for intelligent use whenever occasion requires it. Of course, it is highly essential to the health of some persons that they should totally abstain from alcohol, just as it is necessary for some to refrain from certain kinds of food, or anything else which disagrees with and causes them unfailing injury.

The evils which arise from the abuse of alcohol are principally a question of a proper education of the intellectual and moral faculties of man. A defective state of morals cannot, as many suppose, be effaced, although it may be restrained and regulated to a certain extent by legislation. The general truth can be traced in our history that, whenever and wherever law-makers have turned their attention to meddling and interfering with affairs which strictly belong to the individual, there have followed extravagance, waste, and failure. The responsibility which rests on the individual cannot be saddled on society; but, although legislation is not the main instrument by which the evils of alcohol are or can be diminished, it has yet an important *rôle* to perform in accomplishing this end. It can materially restrict and limit the traffic in alcohol; it can provide compulsory means for the manufacture and sale of pure and unadulterated liquors; it can provide asylums for the care, comfort, and possible reformation of the inebriate; and it can devise laws by which the confirmed drunkard may be declared unable to care for himself, and be committed to an asylum erected for the purpose. But the measure which cures does not always prevent disease, and it is in the prevention of alcoholic excess that we must look for the most favorable results.

Improve the intellect of the citizen, and you will advance the moral state of society; for man in order to do right must first know *how*. Exchange those studies in our halls of instruction, which may be valuable in themselves, for those which have a more direct bearing on the laws of maintaining health, and you will secure a greater amount of intellectual and moral happiness. We do not wish to underrate the ordinary educational curriculum of our schools, but we do say that the importance of a knowledge of ancient languages, of history, of the laws and movements of celestial bodies, and of the location of foreign lands and seas, fades into insignificance when compared with the value of even an ordinary knowledge of physiology and hygiene. Yet the former constitutes a prominent part of our educational system at the present day. This is to be regretted, for it is not even necessary that one should be familiar with these studies in order to carry on the practical affairs of life; but it is actually indispensable, in order to lead a life above that of the ordinary brute, to possess some knowledge of the laws of our own bodies to which we are so indissolubly united. Indeed, a knowledge of the laws of health is a binding duty which we owe to ourselves, to society, and to posterity; and let it not, then, to our own reproach be said that we have felt indifferent and perhaps averse toward this duty; that we have neglected to make the weak stronger, and to fortify them in their struggle for existence, and have thereby failed to accelerate and secure a higher degree of individual and social enjoyment.

Art. III.—*Puerperal Fever. Some Practical Clinical Facts.*

By Julius A. Post, M. D., Rochester, New York.

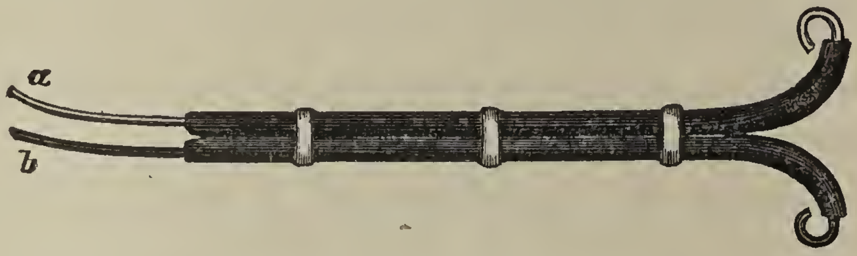
Much has been said and written in regard to the specific cause of puerperal fever. Each practitioner of medicine should carefully study the subject from his stand-point. What would seem to be the exciting cause at one time would appear to be perfectly inert at other times. It has been my privilege to observe the origin and progress of three epidemics of puerperal fever; each seemed to have the same exciting cause, and appeared to be communicated by the medical attendant from one lying-in patient to another. Those who have passed through this trying ordeal may possibly appreciate and be benefited by the experience of one similarly situated. At seven o'clock on the morning of May 15th, I was called to attend Mrs. G. in her first confinement. She had been in labor six hours; I found the feet, legs, body, and arms of a very large child protruding from the vulva, but the head was firmly held with the chin thrown up and behind the pubis. The child was quite cold and dead, and had been in the position in which I found it for about an hour. I immediately gave thirty drops of fluid extract of ergot, applied the forceps, and in a few moments delivered her of a child which weighed eleven pounds. The placenta came away at once, and without assistance, and she seemed to be in a very excellent condition. My experience had been that such cases seldom required much after-treatment, and I so informed the friends, but instructed them to call me should they need assistance. As I was going out of the house, Mrs. P., one of the ladies who had been present during the entire illness of Mrs. G., called my attention to a small red spot which had appeared the day before on her (Mrs. P.'s) face. I examined it quite closely, but saw nothing which seemed to indicate that it was of a serious nature, and I thought nothing further of it until the afternoon of the next day, when a message was left at my office that Mrs. P. was very sick, and wished to see me immediately. I found her with facial erysipelas, which, she said, began at the spot which I saw the morning I attended Mrs. G. She informed me she attended Mrs. G. personally during the night, and before my arrival she had made several attempts to bring away the child by forcible traction and other manipulations, also, that she had remained with Mrs. G. until her (Mrs. P.'s) face was so swollen and painful that she could not keep on her feet, and she was obliged to give up and go to bed. The next day I was called to see Mrs. G., and found her with symptoms which led me at once to suspect puerperal inflammation, and which unmistakably developed itself in the next few hours. She passed through a long and painful illness, but fortunately recovered. I had previously thought of this matter, and made up my mind that, should I ever have a case of puerperal fever, I would give up my obstetric practice at once, and, although I had a number of lying-in patients at the time, I did not again visit them or any other patient approaching confinement during the whole of Mrs. G.'s sickness. No other cases occurred at that time, and none in that vicinity since—at least, if they did occur, they did not come to my knowledge.

My friend Dr. S. had charge of a case of erysipelas of the great toe, and, without any particular care as to himself, he went about his daily practice as usual. It so happened that he had a number of lying-in patients at the time; three of them had puerperal fever, and all died within two weeks.

An old acquaintance and much-esteemed friend (Dr. W.) had an equally sad experience. His obstetric practice was very large. During a particularly busy season he was called to attend a case of facial erysipelas, and continued to attend his lying-in patients as usual. Immediately following the erysipelas came eight cases of puerperal fever, and six of them proved fatal. I do not wish to discuss the identity of erysipelas and puerperal fever, but facts are facts. It may be possible that these cases would have occurred, and that their occurrence at that particular time was an accidental circumstance. They are the only cases of puerperal fever which have come within my observation, and the cause seemed painfully evident to those interested, and the termination so sad that I feel justified in placing them before the medical public; and I trust that the experience of these very excellent and able practitioners may prove a warning to those who may chance to be thus unfortunately situated.

Art. IV.—*On the Treatment of Trachoma by Galvanization.* By A. C. Smith, M. D., Decorah, Iowa.

Galvanization of the mucous membrane of the palpebra can be effected by applying both poles at once on that part. To accomplish this end a suitable instrument can be formed by a copper wire and a platinum wire, the ends of which, forming the handle, are insulated within a common covering of hard rubber of sufficient length to afford a handle for the operator. Beyond the covering the wires diverge, forming hooks for connection with the conducting cords. The opposite uncovered ends of the wires, of about the length of the palpebra, should be parallel and a couple of lines apart. The copper wire connects with the negative pole, and the platinum with the positive. (See cut.) It is necessary to use platinum here, as any other metal will be oxidized.



For applying the parallel wires as well on the upper as on the lower palpebra, in such a way as to touch the diseased membrane to as great an extent as possible, they must be bent in different ways, care being taken not to bruise their smooth surface. The instrument is passed slowly over the mucous membrane, allowing it to rest on the most affected spots, inserting it in the longitudinal furrows, so that the branches embrace the duplicatures of the mucous membrane, introducing it under the reversed upper palpebra into the angle, and introducing one branch behind the plica semilunaris, while the other touches the anterior surface.

The mucous membrane swells during the operation, and gas is developed at both poles; but the swelling soon subsides. The pain is not considerable, when only two cells are used, and only a slight disagreeable feeling is experienced about an hour after the operation. From half a minute to one minute for each palpebra will be sufficient for a single application.

The advantage of this method of treatment, in economizing time and labor, can only be appreciated when trial has been made of the ordinary method, viz., to apply the negative pole, in the form of a buttoned sound, on the mucous membrane, and the positive pole in the neck, a method which requires from five to ten minutes for each palpebra, and is as tiring for the operator as to the patient.

It is a striking phenomenon that the granular bodies and papillæ very readily yield to the galvanic treatment, while it takes a longer time before the enlarged vessels are affected. This observation can be made as well in an ordinary mixed trachoma as in cases of a lower type, where the hypertrophy of the vessels is the predominant symptom, while the only evidence of trachoma is a few scattered papillæ. Though the vascular tissue does not always offer the same resistance, I have sometimes succeeded in a few applications in causing involution of large folds of conjunctiva, the remains of trachomatous disease treated for a long time with caustics and astringents.

It is especially where the disease has begun to retrograde that the effect of galvanization is manifest; though it seems that a frequent galvanization in the first stage of the disease may limit the development in some degree, as I have had the opportunity of noticing when during the applications to one eye the other has become affected.

The slight reaction following the galvanization gives this method a practical advantage over the ordinary treatment with chemical agents. The patient is saved from great annoyance, and at the same time it is less inconvenient and injurious to him to allow a moderate use of the eyes during the treatment, as is often apt to be the case in spite of the physician's restrictions.

ART. V.—*Carbolized Bran in Compound Fractures.* By LEWIS D. MASON, M. D., Brooklyn, New York.

THE advantages possessed by bran, properly mixed with carbolic acid, as a dressing in compound fractures, are these:

1. The discharge is disinfected as it flows from the wound into the bran.

2. We have a dressing that is "germ proof," and one that notably limits suppuration.

3. We secure the anæsthetic properties of the acid.

The method of carbolizing the bran is very easy—simply by adding the crude carbolic acid slowly to the quantity of bran to be carbolized, stirring it at the same time. A little experience will decide how much of the acid a given quantity of the bran will require. An excess should be avoided. The bran will retain the properties of the acid for some time. I have now used it in two cases of compound fracture of tibia, and one of compound fracture of femur.

Clinical Records from Private and Hospital Practice.

I.—*Notes of a Case of Pelvic Hæmatocele; Operation; Recovery.* By W. W. Munson, M. D., Otisco, New York.

Mrs. A. M., aged twenty-three years; United States; married.

September 24, 1875.—Just returned from a visit, twenty miles away, by wagon. Was detained for a day and a night on her return, within six miles of home, on account of pain through "left side," as she states—placing her hand in lumbo-abdominal region, to show me its situation, and explaining that pain extended down into groin. This pain is now nearly relieved. She consults me for advice upon a prolonged menstrual discharge, which has continued for three weeks, it having commenced ten days after her regular period for menstruation, which did not occur at the proper time. She states positively that she did not consider herself pregnant, and used no means whatever to "bring herself round;" and I have every reason to believe her.

She was absent two weeks; the discharge having commenced before leaving home for her visit. She states that while absent she had a sharp attack of this pain, which passed off in a few hours under the use of hot fomentations. I do not decide upon the cause of this pain, but renal calculus and lumbo-abdominal neuralgia suggest themselves to my mind. Made no vaginal examination, as I should have done. Bowels are regular. Ergotine (P. D. & Co.) gr. i. t. i. d.

September 26th.—Very severe pain since commencing the use of the ergotine. Find that I was not careful enough in searching for her previous pain, which she says was the same that she experiences now, and which is well down in left iliac region and through hip of same side. Menstrual (?) discharge continues. Deep in left iliac fossa lies a smooth, globular, immovable tumor the size of a man's fist. It is not tender. Thorough vaginal and rectal examination reveals nothing abnormal about any of the pelvic organs within reach. Uterus movable, and in natural position and condition. Vagina not obstructed. Examination of iliac tumor by conjoined manipulation not satisfactory, as it cannot be well reached from below. Diagnosis obscure, both as to tumor and discharge. Opium.

28*th.*—Pain greatly increased except as it is controlled with opium. Rapid, feeble pulse, thickly-coated tongue. General appearance denotes great prostration. Examination externally reveals large, symmetrical tumor in hypogastrium, reaching half way to umbilicus, and apparently connected with the left iliac enlargement. Perfectly immovable by conjoined manipulation. True pelvis firmly packed with the mass, which is hard and solid. Uterus immovable, crowded close over, to right side of pelvis, and down so low that the os lies nearly between the labia. This newly-developed enlargement can be more easily mapped out below through the rectum than from vagina.

As I had never seen anything of this sort I requested that Dr. Green, of Homer, be summoned for consultation. He passes the sound into cavity of uterus, which does not appear abnormal in any way except in position; the handle of sound pointing across left thigh, showing the position the organ has taken. He also passed needle of hypodermic syringe into hypogastric mass from rectum with negative result.

I am indebted to Dr. Green for making the diagnosis of pelvic hæmatocele. Treatment expectant for the present.

29*th.*—Patient much worse in every way. As bowels have not moved in two days, give mild cathartic. Try the hypodermic syringe again from vagina, but draw only a clot of blood into needle. It is my judgment to operate at once and turn out the clots. Opium as required.

30*th.*—Better. Cathartic of yesterday acted well. Pain and vaginal discharge ceased. This discharge did not again return. Obliged to empty bladder with catheter to-day.

October 1*st.*—Still better. Several stools during last night; now checked. Urinates freely. No change in the tumor. No pain. No medicine except an occasional anodyne, as I have no faith in any drugs for the removal of blood-clot. Remains comfortable, October 2d and 3d.

4*th.*—Called to evacuate bladder, but only small quantity of urine passes catheter. Pressure of tumor evidently caused the sensation.

During the next nine days she remained quite comfortable Appetite very good. Urinated freely. Bowels acted every day. No change in the tumor, unless it was a slight diminution in the iliac portion of the enlargement. Still she seemed to be generally failing. My opinion is still to operate. Posterior lip of os uteri largely swollen, œdematous and rolled forward, from the great pressure, and can be seen by simply separating the labia. No part of uterus can be distinguished with the finger, except the os and cervix. Tumor is continuous, entirely across pelvis, firm, and low down.

On October 13th Dr. Morrell, of Borodino, sees the patient with me. He passes small trocar into tumor from rectum. Canula returns filled with a small portion of soft, semi-organized material. Wall of sack (?) very fine and thick. Contents evidently undergoing absorption and organization, but there is little hope that patient can live till so large a mass is disposed of in that way. Pressure on surrounding parts is evidently doing great mischief. The doctor advises against operation, believing it to be a fatal case anyhow, and that operative procedures would be useless.

October 15*th.*—Failing rapidly. Every evidence that death is near. I urge operation as the only means of saving her life. Friends conclude to consult together, and inform me of their decision in the morning.

16*th.*—Husband comes to inform me that they have decided to consent to an operation, it being apparent to them all that she can survive but a short time in her present condition. I hasten him for Dr. Earle, of Tully, to come at once to assist me. There being about twenty miles' travel necessary, and the roads very bad, we do not get to work till after dark. Dr. Earle administered the anæsthetic. This proved to be the most difficult part of the operation, as the doctor was obliged to administer ammonia nearly as much of the time as he did ether, to keep the patient alive.

I never performed a surgical operation, nor witnessed one, with so little hope of leaving the patient alive, as this case presented. She was completely helpless, nearly insensible, pulse extremely feeble and flickering. Everything appeared so unpromising that both Dr. Earle and myself warned her husband, mother, and sister, that she was less likely to survive the operation than to die before it was completed. Fortunately, they comprehended the situation, and decided intelligently. The patient herself was in no condition to consult upon this or any other subject.

The operation was performed by thrusting an ordinary rocar, two and a half inches long, into the tumor from vagina to left of the median line. It was necessary to pass the nstrument in its entire length in order to reach the contents, he wall proving to be extremely thick and firm. On withdrawing trocar, nothing escaped through canula but a little oagulated blood and the same soft, semi-organized material hat Dr. Morrell obtained on the 13th. The canula was withrawn, and the opening enlarged with a probe-pointed bistoury, utting to the left away from uterus. Then, by breaking up he coagula and as much of the partially-organized material s possible by means of the finger, probe, scoop, and forceps, we removed the contents and washed out the cavity thoroughly with a stream of water from Davidson's syringe. There was but very little hæmorrhage. The influence of the ether passed off very agreeably. No vomiting. She passed the night very comfortably. Catheter used once during the night. Appears bright and cheerful next morning. See her again late in the day (17th). Discharge from wound slight. No pain. Tonic of pyroph. iron, infusion gentian and whiskey. Milk diet. Opium as required.

After my return home (17th) I received an injury which disabled me for several days. The notes from 18th to 28th October are chiefly made from information received from Dr. Earle, who very kindly took charge of the case during my disability, though I saw her occasionally after the 22d.

18*th.*—No bad symptoms. Cavity of tumor washed out with carbolized water. This was kept up daily till the 28th.

19*th.*—Restless. Slight abdominal tenderness, with febrile movement.

20*th.*—Symptoms alarming. Abdomen very tender. Pulse 130. Temperature 104½°. All the symptoms of peritonitis. Opium.

21*st.*—Inflammatory symptoms somewhat abated.

22*d.*—Patient feeling very well. Relishes food for first time. No pain. This morning, while rising to move bowels (which she does daily), there was a sudden and abundant flow of pus from the wound. On washing out cavity, as usual, with the syringe, a considerable quantity of pus comes away with the water. This is the first appearance of pus from the opening.

Continued to do well till 26th October, when I see her again with Dr. Earle. We find her quite prostrated and restless to-day. Pus continues to flow from the opening, but it is gradually diminishing. Bowels move freely every day. The hypogastric tumor is subsiding. The iliac enlargement remains, but it has moved downward somewhat, and, instead of appearing smooth and globular as heretofore, it is now long and knobby. The nature of the thing flashes upon us in a moment. A stream of water is brought to bear upon it, and an immense mass of hardened fæces washed away. And this is the last of the *iliac tumor*, which has remained there a puzzle to all of us since I first discovered it, September 26th, just one month previous to its *removal.*

28*th.*—Doing well. Sits up a little. No pain. No tumor perceptible externally, and but very slight enlargement felt through vagina. Discharge of pus diminishing. Cavity washed out for last time.

November 3*d.*—All about the house. Appetite good. Tumor nearly all disappeared. Discharge of pus very slight. Uterus gradually returning to its normal position.

12*th.*—Uterus in natural condition and position. Patient considers herself nearly as well as ever. Nothing remains as a reminder of her troubles except the cicatrix at the upper extremity of vagina, where the opening was made. This woman rapidly regained perfect health. She is now under observation and remains well (July, 1876). She did not menstruate until the latter part of December, since which time she has been "regular."[7]

Thus ended a successful operation for pelvic hæmatocele in a case which, in all human judgment, would have terminated fatally if left to the course of Nature, which latter plan is usually encouraged both in books and in practice.

The points upon which I am unable to offer an explanation are:

1. The origin of the hæmorrhage causing the hæmatocele, occurring three weeks after menstruation began.

2. The situation of the abscess, which evidently caused the inflammatory symptoms of October 19th, 20th, and 21st, and which spontaneously ruptured into the cavity of the tumor and discharged through the artificial opening, October 22d.

3. The cause of the suspension of menstruation from the first of September to the last of December.

4. The cause of the paroxysms of pain previous to the occurrence of the hæmatocele.

The obstacles in the way of making a proper diagnosis of the "*fæcocele*" (as Dr. Green facetiously termed it) appear to be:

1. Its smooth, round appearance.
2. Its high position, out of reach of the finger.
3. The regular, daily, free movements of the bowels.

II.—*Case of Van Buren's Disease of the Penis.*[1] By STUART ELDRIDGE, M. D., Surgeon Yokohama General Hospital.

IN the NEW YORK MEDICAL JOURNAL for April, 1874, Drs. Van Buren and Keyes reported five cases of chronic circumscribed inflammation of corpora cavernosa, all apparently unconnected with syphilis or gonorrhœa, and all occurring after middle life. An additional case was reported in the same Journal for June, 1874, by Dr. Isaac Smith, this also occurring in an elderly man and apparently non-venereal in origin.

I have recently met with a case which, while differing in some particulars, on the whole so closely corresponds with the disease above alluded to that I believe it to be the same.

L. Moore, American sailor, aged thirty-five, married; has always enjoyed good health till onset of present disease. Never had a chancre or any sore about the genitals. Three years ago, for the first time, had a slight gonorrhœa, lasting about a month. Five months ago, feeling some pain during erection, he found on examination a mass of induration surrounding the urethra over a space of about half an inch in length, midway between the glans and root of penis. This gradually disappeared, having caused no inconvenience in making water, nor at any other time save during erection, while at the same time a hard lump formed about midway between the glans and root as before, but about an inch long, and occupying the whole width of the organ and more than half its depth. This lump gradually traveled forward, hardening on its anterior margin and softening posteriorly. For the last three and a half months the slightest erection has caused intense pain; complete erection is now impossible. Has used mercurial ointment as local application for three weeks; last used it two months ago, but found no effect from it whatever. Has no pain or discomfort except during erection, to which during the night there is a constant tendency. Has had no urethral discharge since termination of clap three years ago. Three weeks ago there was an interval of more than a quarter of an inch between anterior margin of lump and the corona glandis. Present condition:

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[1] Read before the Medical Society of Yokohama, Japan, June 3, 1876.

May 25, 1876.—General condition exceptionally good. No signs of syphilis either past or present; no history or trace of scrofulosis. In the corpora cavernosa there is a cartilaginoid mass extending from corona glandis backward about an inch and a quarter in the right corpus, and a trifle more than an inch in the left corpus, filling entire transverse diameter of the body of the penis; the vertical thickness apparently coincident with that of the corpora cavernosa. The tumor is only to be detected by palpation, as it causes no distortion or change of external configuration whatever, at least in a flaccid state of the penis. The margin of the induration is sharply defined toward glans, not so distinctly marked posteriorly. Anterior margin exquisitively sensitive on pressure; body of tumor and posterior margin almost insensible. Skin unaffected and freely movable. A steel bougie, No. 14, English scale, passes easily into the bladder, and the closest examination fails to reveal anything abnormal either in the urethra or corpus spongiosum.

Now, it will be observed that this case differs in two particulars from those reported by Drs. Van Buren, Keyes, and Smith. First, in the age of the patient. Second, that in the case now reported the disease appeared primarily in the corpus spongiosum. I am nevertheless convinced that the pathological condition is identical with that in the previously-noted cases. The number of cases as yet reported is so small that the advanced age of the patient may be a mere coincidence, or perhaps represent the general rule only, while, *a priori*, it would be expected that parts so closely related both structurally and functionally as are the corpora cavernosa and corpus spongiosum would share in pathological tendencies.

In the case described, belladonna and camphor was given to relieve erection, and an ointment containing oleo resin copaibæ and iodine was empirically prescribed. From the rapid change in the location of the tumor, tending to bring it shortly to the extremity of the organ, a good prognosis was given. Had the circumstances admitted of it, electricity would have been used.

June 24th.—The anterior margin of the tumor is now well under the corona glandis, while the posterior margin has advanced even more than the anterior.

III.—*Case of Traumatic Tetanus; Recovery.* By A. W. Shelley, M. D., Harrisburg, Pa.

Was asked by Dr. Van Cleef to see a patient in the country for him, as he was at the time engaged.

The patient, a woman, aged thirty-nine, previous health very good, and masculine in appearance and manner.

On June 4, 1876, in the effort to rescue her drowning child from a deep hole in the creek, a stub of wood, an inch in length and of the thickness of a crow quill, penetrated deeply the plantar surface of the great toe, at the metatarso-phalangeal articulation. She would not consent to her friends' solicitations to have it removed.

18*th.*—She complained of a stiffness in moving her jaw, and experienced a difficulty in walking. A quack doctor told her she had rheumatism, and treated her accordingly.

22*d.*—She fell, and with some assistance regained her feet, but it was only with an effort that she continued her household duties.

26*th.*—Stub came out by suppuration.

27*th.*—In an attempt to walk across the floor she fell, having a general tetanic spasm, which occasionally partially relaxed, but only again to recur with renewed violence. She was now confined to her bed. Becoming alarmed, as well as dissatisfied with her attendant, a regular physician was summoned.

Patient was first seen July 1, 1876. The wound was dry and inflamed. Probed it, but could detect nothing foreign. The muscles affected were those of the lower extremities, back, abdomen, and jaw. The pharyngeal, respiratory, and diaphragmatic muscles were only partially involved. The sphincters retained their contractility. The abdomen was very hard, and muscles rigid, and the rigidity of the lower extremities was more marked than of the upper. The paroxysms recurred without apparent provocation, and almost amounted to opisthotonus. The intellect was clear, and the patient entirely rational. Could converse freely, except for the dyspnœa, due evidently to spasms of the respiratory muscles and diaphragm.

Patient suffered greatly from gastric derangement. Tongue was covered with brown fur, pulse full, and 90 or more per minute, urine high colored, with a characteristic brick-dust deposit on standing, bowels constipated, pain in back, and a general languor. Administered in two powders, three hours apart, twelve grains of calomel and half a grain of ipecac., to be followed in three hours with a full dose of sulph. magnes. Left a solution of tr. aconit., and fl. ext. veratrum viride, to be given every third hour.

July 2d.—Dr. Van Cleef and I saw her together. Rigidity not so constant, except when patient was moved, pulse softer and not so frequent, bowels freely evacuated, pain in back less, tongue moist and cleaning. Used the tobacco-injection treatment with decided effect. After noting the result we gave directions for it to be used only during a paroxysm, or when one threatened. We gave full doses of morphia until rest was secured.

3d.—Patient more relaxed, but weaker, and treatment continued.

4th.—Patient weaker, but abdomen and muscles still less rigid. Owing to weakness, it became necessary to stop the tobacco or depressing treatment. We now gave her tablespoonful doses of spiritus frumenti and one and a half grain of quinine every four hours, and morphia in the evening to secure rest.

5th.—Pulse frequent, but stronger; otherwise the condition much the same. To the treatment of the previous day we added hydrate chloral and bromide of potassium, in full doses, until patient slept or rigidity ceased. We gave the medicines alternately, each every fourth hour. The morphia was now omitted.

6th.—Patient had a refreshing sleep during the night; pulse slower and soft; appetite good for the first time; rigidity confined to the lower extremities and jaw, with spasm of the muscles of the back on movement. Abdomen soft, with occasional hardening on pressure.

7th.—All the symptoms improving, and medicines continued.

8th.—Continues to improve; rigidity of lower extremities and jaw gradually yielding. Hydrate of chloral to be given only in the evening sufficiently to quiet the system. Other medicines given three or four times a day.

9th.—Improvement very decided; felt well enough to sit up. Sat on a chair after dinner. The abdomen remained quite soft even on being kneaded. The spasms amounted only to an occasional yawning stretch.

10th.—Could turn on to her side herself, and was gaining strength, and again sat on chair. During the entire sickness the intellect was clear.

16th.—Patient sitting on a chair. Can walk well with a little assistance. Recovery complete. To us the interesting feature of the case consists in the length of time (three weeks) the stub remained before any evil resulted, and its full development only after the source of irritation was removed, and the very marked improvement after the administration of the hydrate of chloral.

Notes of Hospital Practice.

BELLEVUE HOSPITAL.

Peritonitis; Aspiration for Relief of Tympanites.—A negro patient aged thirty-five entered hospital suffering from peritonitis. He had been kicked in the abdomen by a horse, and shortly afterward suffered from severe pain, accompanied by vomiting. The tympanites which followed was such as to interfere with respiration to a considerable extent, and for its relief Dr. C. P. Smith aspirated the intestines. The instrument employed was a stomach-pump, with a needle attached to the end of the tube. It was found necessary to introduce the needle into the intestines in three different locations—two centrally and one laterally. The patient experienced much relief from the aspiration, and showed every sign of passing on to recovery.

Rupture of the Duodenum.—A boy fourteen years of age received a kick from a horse, which caused severe pain, but only a limited amount of shock, inasmuch as the patient was able to walk up-stairs to the ward. After being placed in bed the pain increased in severity, and was accompanied by tympanites. Vomiting was an important symptom from the time of the injury, and continued till his death, which occurred a few hours after admission. At the autopsy there was noticed intense congestion of the mesentery and omentum. The duodenum was ruptured at one point, and the cavity of the abdomen contained a large amount of bloody fluid.

Fistula in the Gall-Bladder.—A woman entered hospital with an opening in the right hypochondriac region, which proved to be a biliary fistula. Some time afterward the patient died from hæmorrhage, and at the *post mortem* a fistula was found to extend from the gall-bladder to the surface of the abdomen. The inference was that the fistula was the result of ulceration caused by gall-stones.

Treatment of Fracture of Thigh in Children.—Two children, aged respectively five and seven years, were admitted to hospital suffering from fracture of the femur. It was considered advisable to place the patients in wire breeches, similar to those used in the treatment of exsection of the head of the femur. The appliance proved of use in allowing the surgeon to see constantly how reparation was progressing, and at the same time guard against any deformity that might appear.

Fracture in Aged Persons.—There is a very general impression that fracture of the bones of the extremities occurring in old persons is liable to be attended with ligamentous or delayed union. It would seem that this result is doubtful, for the reason that, in a large number of cases observed, consolidation took place quite as rapidly in patients from fifty to seventy years of age as in those of middle life. One case that is at present under observation, and who is fifty-four years of age, showed marked consolidation at the end of ten days. Some cases presented by Dr. Erskine Mason at the New York Pathological Society last winter demonstrated that even age, when accompanied by Bright's disease and anasarca, did not delay ossific consolidation.

Tetanus.—Two cases of traumatic tetanus have recently entered hospital and terminated fatally. The first case resulted from a crushed finger, and developed one week after the injury. Injections of chloral were given, but with only slight benefit. The inhalation of nitrite of amyl proved of value during the paroxysms, but in twenty-four hours after admission the patient died.

The second case arose from a contused wound of the foot, and also proved fatal. The tetanus appeared about a week after receiving the injury.

NEW YORK FOUNDLING ASYLUM.

Ununited Fracture of Clavicle.—A child five years of age has at the present time an ununited fracture of the clavicle, which shows no sign of consolidating. The fracture took place before admission to the institution, and, as far as could be ascertained, was not treated. The false joint, in all probability, was due to the motions of the upper extremity on the affected side. There seems, however, to be no loss of power in that shoulder, nor any deformity other than a projecting false joint of motion.

MOUNT SINAI HOSPITAL.

Treatment of Disease of the Stomach by washing out by means of the Stomach-Pump.—A novelty in practice, which was suggested by Kussmaul, and introduced in this hospital by Dr. Herzog, consists in washing out the cavity of the stomach by means of appropriate remedies.

The patient upon whom it was practised was a woman who gave a history of nausea and vomiting. The diagnosis rested between malignant disease and chronic gastric catarrh; but in either case the same treatment was indicated.

The effect of the stomach-pump was to make the patient feel easier, so much so, indeed, that it was frequently had recourse to at her request. After a few days the vomiting, which had been nearly constant, became exceptional, and after a short time the patient left hospital very much improved.

In using the stomach-pump the method employed was, first to evacuate the stomach, and then inject a weak solution of salicylic acid, which was subsequently pumped out.

Cancer of Stomach; no Vomiting.—A case of cancer of stomach was under observation in which there was no vomiting. At the autopsy a schirrous mass was found on the fundus of the organ, and, inasmuch as there was no stricture of the pylorus, it is fair to assume that the absence of vomiting was due to this cause. Another case of cancer suffered from occasional vomiting, and at the *post mortem* the pyloric orifice was found to be slightly contracted.

Traumatic Aneurism of the Temporal Artery.—A patient entered hospital with a pulsatory tumor in the right frontal region. On examination, it was found to be situated over a branch of the temporal artery. No operation was performed, inasmuch as there was no tendency of the aneurism to enlarge. The cause was due to an injury received on the side of the head.

PRESBYTERIAN HOSPITAL.

Compound Fracture of Tibia; Lister's Treatment.—A case of compound fracture of the tibia was taken to the hospital, and for a short time did well. Phlegmonous erysipelas within a few days manifested itself, and ran the usual course. No treatment was found to be of any special benefit, till Lister's method was had recourse to. This consisted in syringing out the sinuses with a solution of chloride of zinc, containing one part of zinc salt in forty of water, and applying the antiseptic dressing. During the process of syringing much pain was caused, but after that ceased there was no further discomfort. A drainage tube was then inserted, and several thicknesses of gauze, saturated with a dilute solution of carbolic acid, were placed over the ulcerated surface. Over these was placed a fold of lint, and the whole sealed up with oiled-silk and collodion. Previous to this treatment the sore was doing badly, but afterward a manifest change for the better took place. There was no relapse.

ROOSEVELT HOSPITAL.

Abscess involving the Liver and Gall-Bladder.—A woman entered the hospital suffering from jaundice accompanied with pain over the region of the liver. Shortly afterward the patient died, and at the autopsy an abscess was found which involved the gall-bladder and liver. Several pockets were discovered, which contained gall-stones about an inch in diameter. These gall-stones were six in number, and presented several facets. It would seem from the *post-mortem* examination that the biliary calculi ulcerated through the gall-bladder, and formed an abscess which involved and destroyed a portion of the liver.

Hydrothorax; Aspiration.—A man suffering from Bright's disease was admitted to the wards suffering from urgent dyspnœa. On examination there was found to be marked hydrothorax on both sides, and for its relief thirty-two ounces of fluid were withdrawn. The dyspnœa for a time was very much relieved, but subsequently œdema of the lungs supervened, and the patient died.

Forcible Dilatation of the Cervix for Dysmenorrhœa.—There have been ten cases in the hospital in which it was deemed necessary to practice forcible dilatation of the cervix uteri. In each case the patient was relieved of the dysmenorrhœa, and no untoward sequel followed the operation. The experience has not been so satisfactory in Bellevue Hospital, inasmuch as one patient, who had been operated on in this manner outside, entered and died of peritonitis. The *post mortem* showed that the starting-point of the peritonitis was to be traced to the lacerated cervix.

Dysentery.—In those cases of dysentery in which there is a tendency to vomit, the treatment pursued is to administer enemata of tincture of opium and starch, in the proportion of twenty drops of the former to an ounce of the latter. Attention is also paid to the diet—restraining the patients from taking anything but milk and rice.

Correspondence.

The Medical School of Vienna. What is required of American Students. Special Instruction, the Cost of Living, etc. By G. Farrar Patton.

Vienna, *June*, 1876.

Editor New York Medical Journal:

As there are so many young physicians coming over every year from America to finish their education at the celebrated Vienna school, I believe that it will be doing the public an acceptable service if I give a few items of practical information on the various points upon which gentlemen contemplating a trip to this city would most naturally wish to inquire—How the work of instruction is carried on, what it costs to attend the lectures and clinics, the price of room rent, cost of living, etc., etc. A graduate in medicine, as almost all are who come here from foreign countries, Vienna being more particularly a finishing school, would not feel directly interested in knowing about the preliminary steps which would concern an absolute beginner, but it may be as well to speak briefly of the arrangements for the studies of the earlier years. It is usual for a foreigner to identify himself by means of a passport, certificate from the mayor of his town, or letter from the consul of his government. Then there is a matriculation fee of about $3.50 to pay. The new comer then writes his name in the University album, is furnished with the necessary credentials to establish his claim to studentship under the protection of the University, and is also given a blank-folio book with places in which to write the lectures, clinics, etc., he wishes to attend for each *semester* (session). Having consulted a catalogue, he decides what professors he will hear. There being so many professors, many of their lectures occur at hours that conflict, but the general plan is so arranged that the lectures proper and customary for the students in each grade of advancement, for instance, in the first *semester*, do *not* conflict. In the advanced stage it is often difficult to arrange a plan quite to one's satisfaction. The student then fills out the blanks of the first page, takes the book to the *quaestor*, who reckons out the whole cost and receipts the amount in the book. Within the first eight or ten days the student presents his book to each professor (usually after a lecture), and the latter signs his name with the date opposite, to show that the student was promptly on hand. At the end of the *semester* this signature is repeated, to show that one is on hand at the close of the course. At the end of a certain time, usually two years, the student has to pass an examination on the elementary studies—anatomy, physiology, chemistry, etc. This is called *tantamen physicum* or the *physicum.* At the end of two years more comes the examination for the degree of M. D., after which those who expect to practice in this country must undergo a still more rigorous examination, lasting from two to six months, called the *Staats Examen.* For foreigners this is not required, nor are they obliged to stay the four years, as they can shorten the time materially by diligence. The money of Austria is in gulden and kreutzers, one hundred of the latter making one gulden. I shall give all the prices in guldens and the reader can easily reckon them out for himself, remembering that a gulden, at the present rate of discount on the Austrian paper money, is equal to about forty-three cents gold. The student who matriculates and enters regularly as above described has all his courses of lectures to correspond with the length of the *semesters.* The winter session is from about October 25th to March 15th, and the summer one from the latter part of April to the middle of August. The courses of lectures and clinical demonstrations cost five, ten, fifteen, and twenty gulden, depending on the number of lectures in the week, and, to a certain extent, on the value the professors attach to their own teaching. Practical courses, such as dissecting, work in the chemical laboratory, operative midwifery, and the like, are among the most expensive, averaging twenty-five gulden each. There are various public lectures once a week, which are free, only one pays a trifle toward defraying the expense of coal and gas in winter. These items do not in the least concern a graduate come to Vienna to finish off, for he has not to matriculate, nor is he directly interested in the length of the *semesters*, for reasons that will appear further on. The professors are divided into two classes, ordinary and extraordinary. The former are the leading men, the ones by whom the candidate for a degree must be examined, while the latter, though equally as distinguished in their respective departments as the ordinary professors, have nothing to do with the *Doctor Examen*, though some of them have with the *Staats Examen*. There is still another class of teachers, called *Privat Docentes*, who are not professors at all, but chief assistants, house physicians, surgeons, etc., men who are eminently capable of teaching, and who usually exhibit a certain enthusiasm and zeal in their work that the regular professors do not. It is with the *Extraordinarii* and *Docentes privati* that the stranger finishing his education here has most to do, while the students must hear the ordinary professors, so as to prepare for their examinations. As the influx of foreigners coming only for a short time is so great, the extraordinary professors arrange their courses with a special view to the convenience of these transient visitors. They announce courses of four, five, six, and eight weeks duration for a limited number of gentlemen, usually ten or twelve, so that a man spending a couple of months in Vienna can arrange it so as to attend half a dozen courses on special subjects that he wishes to perfect himself on, without the bother of having to matriculate and spend a whole *semester*. These short courses are all for the benefit of finishing doctors, being on such specialties as one does not get a good chance to study in a general course where there are some hundreds of students in attendance. Thus they have courses for teaching the practical use of the ophthalmoscope, the microscope, the laryngoscope, the hammer and stethoscope, and so on, with only ten or a dozen men, where the teacher can give each one special attention. One can have such a course on any subject connected with the study of medicine—obstetrical operations, urinary diseases, ear diseases, skin diseases—any conceivable thing, in fact, that a man finishing his education might wish to study up. For these courses the price is from ten to twenty-five gulden, students generally at half prices, as the courses are intended particularly for doctors who are expected to pay more. Those who wish to attend the great clinics held by the *Ordinarii,* as that of Prof. Billroth, without matriculating as students, can do so by speaking to the professor and making a special arrangement. Many go from time to time as visitors without doing this, as there is no doorkeeper to inquire about credentials. Those who wish to obtain the degree of M. D. here, without having gone through the regular course, must apply to the faculty for special permission, and, obtaining this, must stand the regular examination, besides complying with all the forms, paying the fees, and putting in an original (printed) dissertation on some subject connected with the science of medicine. Then as to the language. German is difficult, there can be no question about that, but one who applies himself with energy, associating as much as possible with educated Germans, and listening to lectures and demonstrations, besides reading in medical books for exercises, can reasonably hope to begin understanding what is said in about six weeks or two months. As to speaking and writing the language—that is another matter entirely, but an industrious beginner can hope to understand most of his lectures after six or eight weeks, for the phraseology of the medical lectures is very uniform, and the range of words not extensive. Those who study it a few months before coming over will find themselves richly repaid for their trouble. Next about the art of living in Vienna. Room rent is considered high for Germany. One has to pay from ten to fifteen gulden for a very small, plainly-furnished room, and from that up to thirty or forty gulden for one handsomely gotten up. Service costs one or two gulden a month extra. The Germans eat no breakfast. They merely drink a cup of coffee and eat a roll or two dry, that is without any butter. For Englishmen and Americans this goes a little hard at first, if they try it, but in a few days one gets used to it and ceases to think of the absence of meat. Many take their morning coffee in a café, where it costs from eight to sixteen kreutzers (four to eight cents). Each little "bread" costs two kreutzers. An arrangement can often be made with one's landlady to furnish the necessary articles in the lodger's room at a rate something less than this by the month. Dinner from 1 to 3 P. M. is always taken at a café or restaurant, where one orders what he wants from a bill of fare at fixed prices. A dinner of soup, roast veal, or beef, with potatoes and some simple "hereafter," such as apple-rolls, or fruit-tart, costs about fifty or sixty kreutzers. Beer is seven, nine, and twelve kreutzers per glass, and good wine can be had at fifteen kreutzers for half a pint. Bread is extra at two kreutzers each piece, and the waiter expects two or three kreutzers gratuity. Supper on the same principle and at the same places. Persons coming to Vienna can sail direct to Hamburg, or by Liverpool and London at about the same cost. Gentlemen who have not much baggage and wish to save money need not hesitate to travel third class in Germany, for there is usually a fourth where all the rowdies go, so that the third is quite respectable. From Hamburg to Vienna, *via* Berlin, Dresden, and Prague, the fares are, second class, about $16.50; third class, about $11.25, that being perhaps the best route for an American to take.

PROFESSOR SAYRE'S *Work on Orthopedic Surgery and Diseases of the Joints.*

[WE cheerfully give place to the following communication from Dr. James S. Green, of Elizabeth, N. J., for whose opinion we have the highest respect, in regard to the merits of Prof. Sayre's work. Dr. Green points out many excellences overlooked in the somewhat hasty review published in our last issue.—ED.]

EDITOR OF NEW YORK MEDICAL JOURNAL:

I am in receipt of an early copy of "Orthopedic Surgery and Diseases of the Joints," by Prof. Lewis A. Sayre, and, after a careful perusal of the book, I have no hesitation in pronouncing it the most original and valuable contribution that has ever been made to the surgical literature of America.

We have in it the *résumé* of the experience of a life which has been devoted to the honest and common-sense investigation of the hitherto neglected branch of "Orthopedic Surgery and Diseases of the Joints," unbiased by absurd surgical axioms made venerable by age, and which has developed some of the most important principles of surgical pathology and practice of the present century.

Dr. Sayre in his early professional life threw aside the leading-strings of traditional surgery, and during the last twenty-five years has demonstrated the truth of the proposition, so admirably put by Dr. Van de Warker, in the NEW YORK MEDICAL JOURNAL, June, 1876, that I copy the paragraph entire:

"In medicine, as in law, the influence of precedent and well-established authority often obstructs the way of truth; and, when they are finally set aside, yields only to the pressure of accumulated facts. It requires a firmer array of facts to stem the current of opinion which is the outcome of authority, than to establish a natural law."

While yet a young man, and clinical assistant to the chair of surgery of his Alma Mater, Dr. Sayre conceived it eminently proper to anticipate what Nature would herself in time do with a suppurating ankle-joint, and freely incised it. From the moment that he dared to invade the sacred precincts of a synovial membrane with his sacrilegious knife, he became a reformer, nay a revolutionist, in orthopedic surgery, and was even regarded by some of his elder brethren as a "freebooter and an outlaw."

We trace his progress in his favorite branch of surgery by the development of the following principles and facts, and with them the production of the necessary mechanical appliances.

Prof. Sayre has demonstrated as surgical truths:

1. That it is eminently proper freely to incise joints in suppurative synovitis, and to give them free drainage until all broken-down tissue is removed.

2. That when the inflammation of a joint has not pro-

gressed to the destruction of any part of the organ, extension and counter-extension should be so applied as to keep the inflamed surfaces apart, while the patient also is allowed the use of the limb, and exercise in the open air.

3. That diseases of the joints are, as a rule, of traumatic and not of scrofulous origin.

4. That reflex contraction, produced by pressure upon a contractured tendon put upon the stretch, determines the question and place of tenotomy.

5. That club-foot should be treated, and moulded into shape, at birth.

6. That club-foot arising from paralysis should not be confounded with that form occasionally due to primary spastic contraction.

7. That congenital phimosis and adherent prepuce is a most fruitful source of paralysis, hyperæsthesia, and choræic spasm, and that circumcision almost instantaneously relieves the symptoms.

8. The perfect practicability of exsection of the head of the femur, even in the most advanced and emaciated cases of morbus coxarius, *provided* all the diseased bone is removed, the pyogenic membrane scraped from the sinuses, and the limb placed in such a dressing as shall insure rest and free drainage to the wound, and allow the patient to be carried into the fresh air.

This operation was first successfully performed in this country by Prof. Sayre in March, 1854, since which time he has performed it in sixty-three instances. Fifty-four of these cases recovered, or nearly ninety per cent.

9. Excision of a segment of bone above the trochanter minor, for bony anchylosis of the hip-joint. This operation originally performed by Dr. Rhea Barton, was done in a modified form by Dr. Sayre twice in 1862, with perfect success.

10. In Pott's disease the extension and straightening of the curved spine by the weight of the patient's lower extremities, and the application of a plaster-of-Paris jacket, mark, as has been justly said by one of the oldest and most eminent surgeons of New York, "an era" in the surgery of the United States.

Too much cannot be said of the value and relief afforded by this simple appliance, which has done more in six months to remove an opprobrium in surgery than all the screw bands and pads of the last fifty years.

11. The division of the *latissimus dorsi* muscle in rotatory lateral curvature of the spine, recently recommended and successfully practised by Dr. Sayre, is but a reiteration of the same principle established by him long since as a rule for tenotomy in club-foot.

It would be impossible for me, within the limits of a letter, to give the minor but equally valuable lessons of this admirable treatise in detail, or to describe the originality and value of the mechanical appliances (the short and long hip-joint splints with abducting and rotating screws, the extension splints for the knee and ankle joints, the club-foot shoe, the oakum seton, the oakum and Peruvian balsam dressing), which are plainly portrayed in its pages. Neither can I speak too highly of the differential diagnosis and the clear manner in which the peculiarities of each disease are set forth.

I have to commend the publishers for the admirable manner in which the book is put in type and the liberality with which it is illustrated; not, however, with cuts borrowed—as they are sometimes with acknowledgment, and sometimes without—from other authors, but with original engravings, taken from photographic views of the patients illustrating the lectures.

James S. Green, M. D.

Elizabeth, N. J.

Proceedings of Societies.

BOSTON SOCIETY OF MEDICAL SCIENCES.

Report of Proceedings for December, 1875, *and February,* 1876.

James J. Putnam, M. D., *Secretary.*

Tuesday, December 28.—Dr. Dwight read a paper describing the *post-mortem* appearances of the *brain of the late Mr. Chauncey Wright.*

The chief respects in which it was peculiar were: that the profile line of the interior lobes was very steep; the arrangement of the convolutions, especially of the left frontal region, rather more intricate than usual; and that on both sides the fissure of Rolando was bridged over near its upper end by a small convolution, connecting the anterior and posterior transverse convolution.

The intricacy of arrangement did not so much concern the secondary, smaller, as the primary, typical convolutions. The weight of the brain was fifty-three and a half ounces. The anomalous bridging-over of the fissure of Rolando was not supposed to be of physiological significance, but was interesting from its rarity, having been described but once, by Wagner, as having occurred in the brain of the physician Fuchs.

Dr. PUTNAM spoke of some experiments which he had undertaken, to test a recent statement of Dr. Thompson, of London, that *hypophosphorous acid* is capable of *dissolving solid phosphorus* with great readiness, imparting to it, at the same time, a degree of poisonousness that it does not ordinarily possess. Dr. Putnam had been unable to find that either of these statements was correct. These results were in accordance with the statements of Lewin and others.

Tuesday, February 29.—The regular business was suspended to allow of the demonstration by Drs. Blake and Bowditch, and Prof. Cross, of the uses that might be made of the *calcium light* in connection with lectures to students.

Report of Proceedings for March and April, 1876.

Tuesday, March 28*th*.—Dr. BOWDITCH reported a number of experiments made by himself and Prof. Straight, of Oswego, N. Y., upon the *respiratory movements of the frog.*

Curves were shown which had been made, 1. By a lever attached to the hyoid bone, and accompanying it in its movements; 2. By a Marey's drum, communicating with the cavity of the pharynx by a tube thrust through the membrana tympani; 3. By a second Marey's drum, communicating with the lungs by a canula passing through the abdominal walls and tied into the end of the lung.

These curves were drawn one above another on a revolving cylinder.

An examination of them showed that, 1. When the hyoid bone moves downward and backward, the pharynx is dilated during the greater part of the movement, but that, just before it ceases, owing to the peculiar attachments of the bone, its further descent is accompanied by a slight contraction of the pharyngeal cavity; 2. The opening of the glottis, which accompanies each respiratory movement, is of brief duration, and takes place before the air in the pharynx has reached the same tension with that in the lungs. Thus in the curve, which registers the changes of tension of the air in the lungs, the opening of the glottis is indicated by a brief descent, followed by an ascent, of the line.

Dr. Jeffries spoke of a case illustrating the very *rapid growth of malignant disease*—a tumor, probably a glioma, occurring after an enucleation, having, in four weeks time, grown to the size of three to four English walnuts. The patient was a strong, healthy-looking boy, seven to eight years of age.

Tuesday, April 25th.—Dr. Amory showed the preliminary results of some experiments upon the *microphotography of injected and colored specimens.* So far it had appeared that the carmine-preparations could be reproduced better than the hæmotoxaline.

Dr. Warren showed a specimen illustrating the *organization of a thrombus.* The carotid artery of a dog was tied at about its middle, and the dog killed on the tenth day.

The artery being dissected out and carefully removed, an indurated bunch was found at the point of ligature. The vessel being divided longitudinally with a razor, it was found to be filled for some distance above and below the point of ligature with a firm thrombus. At the point of ligature, the ends of the vessel were found separated about one-third of an inch by a mass of connective tissue which seemed to have originated not only from tissue organized out of the thrombus, but by a growth of connective tissue from the adventitia. The process of organization and the alteration of the thrombus could be well seen under the microscope. The mass of new tissue about the divided ends had the appearance of a callus. There was no trace of the ligature to be found.

Dr. Fitz thought that the central parts of the mass need not necessarily arise from the blood-clot at all as had been suggested, but might be regarded as an inflammatory tissue, perhaps due to the irritation of the ligature. The process of organization seems to proceed mainly from the inner coat of the artery, so much so that Friedländer has recently asserted that the condition is analogous to that of endarteritis.

Dr. Webber showed sections of the *spinal cord* from a case of myelitis, characterized by the presence of numbers of *large, spider-shaped, connective-tissue cells*, the analogues of which occur normally in the white columns of the healthy cord also, being known as Deiter's cells, spider-cells (Spinnezellen), etc.

Charcot and Joffroy have also found them in cases of myelitis, both simple and syphilitic like the present case. The peculiarity of the present specimen consisted in the great size of these cells. In certain pathological processes they enlarge and become swollen, being then much more visible. Joffroy says that Charcot states he has lately found them in every case of chronic myelitis (sclerosis and ataxia) which he has examined. The present specimen showed these cells in very large numbers in the gray substance of the anterior cornua. The patient had had syphilis many years before death. Charcot and Gombault have reported a case of syphilitic disease of the nervous system where these same cells were found in the cord. In their case the disease was seen on the surface of the pons as reddish patches, resembling sclerosis; similar changes were found in the spinal cord. It cannot, however, be concluded that these cells are peculiarly a syphilitic product, as Joffroy found them in a dog upon which he experimented to study myelitis; they occurred in the posterior gray commissure. Some doubt has been expressed as to whether these bodies are true cells, or merely accidental collections of fibres crossing each other. In thick sections it is not easy always to distinguish a nucleus, but in one of the present sections, which is very thin, it is easy, with a high power, to recognize a nucleus in most of the cells which are favorably situated for examination. It is scarcely necessary to say that the nerve-cells of the anterior cornua are larger than these, have fewer processes, of which the finer are perhaps more frequently branched. The nerve-cell has also a nucleus whose outline is more distinct, and a clear, distinct nucleolus.

When the nerve-cell undergoes atrophy, the processes are shortened or disappear, do not become more numerous, and finally the nucleus and nucleolus disappear. These spider-like cells have usually an irregularly ovoid body, from which arise many, six or eight to ten fine processes, only seldom dividing, which radiate from the body in waving zig-zag lines; the nucleus, when seen, is not very distinct, and may contain granules instead of a nucleus. The peculiarity of the specimen now shown is the very large number and large size of these cells in the gray anterior cornua, where they are not usually to be found in health.

Dr. FITZ said: "It is interesting to note that cells of this character have been found as an important element in some cases of glioma, taking the place of the usual round cells."

Dr. HAY made a communication on that form of *astigmatic pencil* in which two focal lines are each perpendicular to the axis of the pencil, and also to each other (publication reserved).

Dr. BOWDITCH made a communication upon the *motor power of the ciliated cells lining the mouth of the frog.* A fuller statement of his experiments will be reported in another place.

Dr. WADSWORTH referred to the *dimensions of the fovea centralis* of the retina as given by authors, and to the fact that the measurements reported seem to have been transmitted by one writer to another without verification. He said that, a year or two ago, Dr. Loring undertook to explain the oval reflex from the neighborhood of the fovea, seen with the reversed image in certain eyes, particularly in those of children, by supposing it to be due to a convexity of the surface of the retina at that point. Dr. Wadsworth and others had made the objection at that time to this theory, that there was no such anatomical condition as would explain it; that the reflex was very much larger than that supposed by other authors to come from the fovea, and yet that there was no convex surface present in the neighborhood, except that at the edges of the latter. Moreover, there is a reflex seen with the upright image at the centre of the macula, which is supposed by authors generally, and by Loring himself, to come from the fovea. Dr. Wadsworth then said that he had made new measurements of the fovea on sections shown before the Society two years ago, and had found it very much larger than it is usually stated to be, so that it seemed possible that Loring's explanation might, after all, be correct.

SOCIETY OF GERMAN SURGEONS.

By S. B. WARD, M. D.

The fifth congress of this society took place in Berlin in April last, and the account in the *London Medical Record* of June 15th, taken from the *Deutsche medicinische Wochenschrift*, is very interesting:

Prof. Esmarch, of Kiel, opened the session with a paper on the antiseptic treatment of wounds in military surgery. He regards Lister's treatment of wounds as one of the most interesting surgical topics of the day, and had been giving some attention to the details of its use amid the contingencies of a campaign, where it could not be carried out with the same accuracy as in a civil hospital. He condemned *in toto* the routine examination of every wound by the surgeon's finger, on the ground of contamination, and because it was no longer necessary, since operations on the field ought to be limited to the removal of limbs totally shattered by shell or cannon-ball. Almost all wounds of the extremities from rifle-balls permitted of recovery, in his opinion, under antiseptic dressings, whether the bones were injured or not, without amputation. The use of charpie was condemned, and disinfected jute and cotton-wool recommended instead.

Herr Berns, of Freiberg, stated that he had tried the method in his surgical wards, but not with so good success as was reported in Berlin, Leipsic, and Halle.

The details of the treatment employed by Dr. Burchardt, of Berlin, differed somewhat from those advised by Lister. 1. He preferred operating in the vapor from a two-per-cent. solution of carbolic acid, because it was less irritating, and did not wet the wound and surrounding parts. 2. On some accounts he preferred to Lister's lac-plaster a solution of shellac in alcohol, to which ten per cent. of carbolic acid was added. Linen or muslin impregnated with this adhered to the skin as well as good plaster, and was easily adapted to all inequalities. 3. When drainage-tubes are used, their open ends permit the entrance of bacteria. To avoid the possibility of this he advised inclosing the ends in disinfected lax rubber bags.

Dr. Graf, of Elberfeld, recommended the use, under proper conditions, of tannin as a disinfectant, in connection with cotton-wool. He is in the habit of covering cotton-wadding with a layer of tannin as thick as a knife-blade, applying it as a dressing, covered with more batting, and allowing it to remain from four to fourteen days. He succeeds thus in preventing inflammation with its accompanying fever, arresting at once any capillary hæmorrhage, lessening the risk of secondary hæmorrhage, and procuring healing as under a scab. When the dressing is removed he finds either a more or less complete cicatrix, or a healthy granulating surface without suppuration. He had employed this dressing in over one hundred cases of injury of the hands or fingers by machinery, attended with injury of the bones. In not one of these cases, if brought early under treatment, was there any local traumatic disorder, and fever, if present at all, was very slight. His paper is too long to consider in all its carefully-prepared details.

Herr Burow, the next speaker, advocated the treatment of wounds by the open method, the results in his hands being that, out of twenty-nine capital operations, including twelve amputations of the thigh and seven of the leg, he had lost but four. He also brought forward further statistics to show that Lister's method was not, in comparison with other modes of treatment, attended with such brilliant results as its supporters allege.

In opening the discussion on these papers, the President, Prof. von Langenbeck, expressed the opinion that no one method of treatment was always the best.

Herr Volkmann, of Halle, stated that he had treated by Lister's method, of which he is a warm advocate, forty-nine complicated fractures without a single fatal case; had made thirty-three osteotomies with equal success; and had twelve times resected the knee-joint, without a death from traumatic disease. He did not consider strict immobilization of the limb as absolutely necessary, but laid great stress on the necessity of carefully carrying out all the details of the plan.

Other speakers expressed their views *pro* and *con*.

Of the remaining papers presented, the most important was one by Herr G. Wegner, of Berlin, detailing "Experimental Researches with reference to Ovariotomy." It is not possible to do justice to so long a paper in the space at command; but the points which he most distinctly brought out were, that the cases said to die of "shock" do not really so die. The cause of the fatal issue is, in most cases, collapse from the great lowering of the bodily temperature by the use of chloroform, the exposure of the peritonæum to the air of the operating-room, and, when it is used, the exposure of the peritonæum to Lister's spray. The latter he found to reduce the temperature very rapidly. The author then discussed the effects of the greatly reduced intra-abdominal pressure; the distention of the peritoneal cavity with air; the rapidity with which the peritonæum was capable of absorbing fluids; the amount of serous exudation that necessarily follows ovariotomy; the methods to be adopted to prevent its becoming excessive or undergoing decomposition, and of evacuating it if necessary. In the after-treatment, the author considered the safest plan to be to remove the secretions early and completely by means of Marion Sims's plan of drainage through the lowest part of Douglas's pouch. In the discussion which followed, the points were brought out that Dr. Sims had himself abandoned the plan of drainage which he had invented, and that Spencer Wells was opposed to both the antiseptic method and drainage in ovariotomy.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 14, 1876.

Dr. C. K. Briddon, President.

Malignant Disease of the Ilium and Colon; Death from Nephritis.—Dr. J. H. Hinton presented a specimen of malignant disease of the intestine, with the following history: The patient was a merchant, aged sixty-one. During last winter had suffered from constipation, but in other respects enjoyed fair health. On examining the abdomen, a tumor was detected in the region of the cæcum, but it did not seem to cause any special annoyance. The disease which caused his death was an attack of croupous nephritis, which appeared two weeks ago, and was characterized by a feeling of lassitude, with nausea. The nausea was so marked that he was unable to retain any fluid on his stomach. Suppression of urine appeared thirty-six hours before death, and it seemed that with the appearance of the suppression there was a decrease of the nausea.

Autopsy.—There were no evidences of peritonitis detected except at the site of the tumor. The tumor was a hard mass, two and a half inches in diameter, situated in the region of the cæcum, and involving both the colon and ilium. The kidneys showed both old and recent evidences of croupous nephritis. The mesenteric glands were not involved.

In reply to a question from Dr. Shrady, Dr. Hinton said that the patient had always enjoyed average health, and that the cause of death was due, in all probability, to starvation, complicated with disease of the kidneys.

Dr. Heitzman said the specimen was either cancer or sarcoma.

Malignant Disease of the Nose.—Dr. C. K. Briddon presented a specimen of malignant disease which he had removed from the bridge of the nose of a patient. He presented, also, a photograph showing the appearance before the operation. The history was mainly as follows: The growth began as a pimple, and steadily increased till it measured an inch and a half in diameter. At the time of removal it was, to all appearance, a flat, circular ulcer, extending from the root nearly to the tip of the nose.

The operation consisted in completely removing the ulcerated mass, and then transplanting a flap from the forehead sufficiently large to fill the cavity formed by the operation. The flap united by first intention at all points, with the exception of the lower angle. The flap increased in size, but at the end of the fourth week the pedicle was divided and the redundancy lessened.

Dr. Heitzman said that one of the most important points in the diagnosis of cancer, viz., induration of the surrounding tissues, was wanting in the specimen presented by Dr. Briddon.

Dr. Satterthwaite said that the rapidity of its growth, together with the warty and dry character of the surface, would point to a cancerous element in the case. The specimen was referred to the Microscopical Committee.

Stated Meeting, June 28, 1876.

Dr. C. K. Briddon, President.

Report of Microscopical Committee.—The committee reported that the case of ulcer of the bridge of the nose, which Dr. Briddon presented at the last meeting of the society, proved to be papillary epithelioma. From inspection it was not at first supposed to be cancerous, inasmuch as there was no induration of the tissues at its edge. The extirpation practised by Dr. Briddon proved to be complete.

The committee also reported that the case of tumor of the intestine presented by Dr. Hinton was one of the myxomatous forms of cancer.

Ovarian Cyst.—Dr. Alonzo Clark presented a case of ovarian tumor which had been transmitted to him by a physician in Massachusetts. The patient was unmarried, and about sixty years of age. The history of the case was imperfect, but, from the letter which accompanied the specimen, Dr. Clark was led to the opinion that the main point of interest of the case rested in the fact that no pain was complained of during the existence of the tumor. Death took place from disease of the stomach, not accurately described. The tumor proved to be of the polycystic variety.

Disease of the Hip-Joint.—Dr. L. A. Sayre presented a specimen removed from a patient three years and a half old. At the operation of excision it was found that there was no pus in the cavity of the joint. The head of the femur was eroded and carious. At the time of presentation of the specimen seven weeks had elapsed since the operation, and the patient was doing very well.

Encysted Tumor of the Leg.—Dr. Sayre also presented an encysted tumor of the leg, with the following history: The patient was a man in moderate health. When he was seen by Dr. Sayre there was an extravasation of blood extending over the calf, and on examination an encysted calcareous tumor, situated outside of the vein, was found to have caused, by its pressure, ulceration of the vessel.

Hypospadias; Imperforate Rectum.—Dr. Nicol presented a case of abnormal fœtus. It weighed six pounds. Each hand contained but three fingers. The most important feature of the child was the condition of genitalia and rectum. The rectum did not empty its contents into the bladder, but there was an imperforate anus. For this deformity two operations were performed, with the hope of opening into the rectum, but in neither case were they successful.

Malignant Tumor simulating Keloid.—Dr. Satterthwaite presented a tumor taken from a man aged forty-three, who entered hospital on May 17th. Fifteen years previously he noticed that a wart appeared on his body. This was removed in 1861, but shortly after reappeared. The operation of removal was performed five times before entering hospital, and on admission it was found to be the size of a man's fist, and marked with elevated ridges along its surface. The growth was again removed on May 25th, and on microscopical examination it proved to be a sarcoma of the spindle-celled variety. Since the operation the patient did well. The specimen resembled, in external appearance, an ordinary keloid growth.

Suspected Aneurism.—Dr. Beverly Robinson read the history of a case which gave some of the symptoms of aneurism, including a pulsating tumor and bruit at the outer third of the clavicle. The patient died comatose, and at the *post mortem* no sign of aneurism was observable.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 18, 1876.

Dr. S. S. Purple, President.

On Fatty Degeneration of the Placenta as a Cause of Death in the Fœtus.—Dr. Charles A. Leale read a paper on the above subject, and detailed some histories which came under his observation. He said it might occur in syphilis, phthisis, and other diseases.

It was a more common cause of death of the fœtus than was generally supposed. The varieties were, simple fatty degeneration, degeneration from apoplexy, from incomplete separation of the placenta, from tubercular deposits, from syphilis, and from scrofula. In regard to treatment Dr. Leale suggested the removal of the fœtus at the thirty-sixth week of utero-gestation.

Dr. E. R. Peaslee said that the changes might have their starting-point either on the maternal or fœtal side of the placenta. If the mother was infected with any of those diseases which acted as a cause of fatty degeneration, it was very probable that the change would be found to have its origin on the side of the maternal placenta. The same was true of placentitis. The fact of there being a degenerated placenta did not imply that it was the cause of death of the fœtus, for the converse might be true; or, in other words, the dead fœtus might be the reason of the fatty degeneration of the placenta.

In regard to patients having a series of miscarriages, and with each conception a longer period of gestation, Dr. Peaslee was of the opinion that the cause of the repeated abortions was due to disease in the germ itself, and that the disease was syphilis. The longer life of each fœtus in all probability was the result of the disease in the father becoming lighter and lighter by lapse of time. The treatment in the latter class of cases rested mainly upon the antisyphilitic treatment of the husband in anticipation of conception, but when conception had taken place it became the duty of the physician to treat the mother. If the mother herself suffered from the constitutional disease, the treatment should be continued with her after abortion had taken place.

In regard to the removal of adherent placentæ Dr. Peaslee said he had never hesitated to use force, and had never been annoyed with any unpleasant sequel. In response to a question, he said that in the induction of premature labor where the fatty placenta was causing the death of the fœtus he would be guided by the condition of the fœtus.

Dr. Isaac E. Taylor referred to a case where the father was syphilitic and the mother perfectly healthy. Several conceptions had resulted in miscarriages at the third, fourth, and fifth months. Eventually the husband died, and the woman married a perfectly healthy man. Her first conception also resulted in a miscarriage, but after the use of mercurials she was delivered of several healthy children. Dr. Taylor thought mercurials were indicated in cases where consecutive abortions took place.

Dr. Hanks was in favor of antisyphilitic treatment of both parents where no other assignable cause could be made out.

Dr. Mundé did not consider the effects of remedies acting on the fœtus through the mother as sufficiently proved.

Stated Meeting, June 15, 1876.

DR. S. S. PURPLE, President.

Pathology of Chorea.—Dr. G. S. STEVENS read a paper on chorea, which was of interest inasmuch as it contained a theory of the etiology and pathology of the disease which has not hitherto been suggested. The proposition advanced by Dr. Stevens was, that chorea was due to errors of vision, principally hypermetropia, and he rested his argument in great part upon the fact that all of his observed cases had, either as a complication or a cause, the errors referred to. How far this peculiar view may be sustained in the future remains to be decided by other observers, inasmuch as an insufficient number of cases were reported. Dr. Stevens excluded from chorea proper all the epidemic and hysteric forms of the disease. Dr. Stevens further reported that a number of cases of chorea which came under his observation were cured by the use of such glasses as were indicated to correct the defect of vision.

Dr. NOYES said that he was not prepared to accept or deny the views which had been advanced. The only way of coming to a conclusion on the matter was to examine the eyes of all chorea cases and to watch the effect of correcting the visual errors if any such were found. He remembered a case of chorea which had been examined for errors of refraction, but none were found. It was not the rule, however, for that disease to fall into the hands of ophthalmologists.

Dr. WEIR MITCHELL had noticed that a number of cases of obstinate headache resulted from errors of vision, and were relieved by correcting them.

Dr. T. C. FINNELL read an obituary of the late Dr. CYRUS WEEKS, a former Fellow of the Academy. The following resolutions were read and ordered to be sent to the NEW YORK MEDICAL JOURNAL and *Medical Record:*

Whereas, It has pleased Almighty God to remove suddenly from among us our late fellow, Dr. Cyrus Weeks, one of the original founders of the Academy :

Resolved, That the Fellows of the New York Academy of Medicine have heard with profound regret of the decease of our late associate, Dr. Cyrus Weeks.

Resolved, That we recognize in this dispensation of Divine Providence the removal of one whose life has exhibited devotedness to his profession, and whose labors have done much to elevate its character and usefulness.

Resolved, That we deeply sympathize with the bereaved family of the deceased, and offer to them our sincere condolence.

S. S. Purple, *President*.

W. T. White, *Secretary*.

The following resolutions were offered in regard to the late Dr. John O. Stone:

Whereas, It has pleased God to call from earth the soul of our late Fellow, Dr. John Osgood Stone:

Resolved, That we have heard with regret of his death.

Resolved, That we cherish his memory as that of an honored and intelligent member of the medical profession, an honored and upright man and public-spirited citizen.

Resolved, That we sympathize with his family in the great bereavement which they have sustained.

Resolved, That a copy of these resolutions be sent to the family of the deceased and to each of the medical journals of the city.

S. S. Purple, *President*.

W. T. White, *Secretary*.

Dr. Gouverneur M. Smith presented, on behalf of the family, a portrait of Dr. James Anderson.

It was moved and seconded that the following vote of thanks be presented to the donors:

Resolved, That the thanks of the New York Academy of Medicine are hereby tendered to Dr. J. H. Anderson for the portrait of his father, Dr. James Anderson, who, as a founder, as a president, as a trustee, and as chairman of Committee on Ways and Means, has evidenced a special interest in the welfare of the association, and who is held by the Academy in warm regard.

Bibliographical and Literary Notes.

Art. I.—*The Normal Standard of Woman for Propagation.* By Nathan Allen, M. D., Lowell, Mass.

For the past few years the author of the above-mentioned paper has been calling the attention of the profession to the great importance of a thorough understanding of the laws of hereditary descent, and the importance of more attention being paid to physiology in education. He has also called the attention of the profession to the necessity for a higher standard of mental hygiene. In all his writings there has appeared a deep desire to impress the necessity for an harmonious development of the whole organism, and he has showed most clearly that, for the promotion of health and longevity, too much stress cannot be attached to the importance of preserving this harmony or balance of organization. He has shown that, in the American people, there has been gradually an undue development of the brain and nervous temperament at the expense of physical stamina. These truths have always been advanced in a bold, vigorous, and pertinent manner, and have, we hope, been appreciated by the profession and the public. There can be no doubt that the subject of the increase of population among Americans is becoming a serious problem, when we reflect upon the manner in which the intellectual faculties of our American women are cultivated at the expense of their physical development. It is a fact which is probably accepted by all those who have reflected upon this subject, that excess of development of any part of the system is hostile to fertility. This would seem to be clearly shown by the growing disinclination among young married women to assume the duties of maternity, and such a disinclination, if wide-spread, of course tends to undermine the foundation of the marriage and maternal relation. This brings us to the paper of Dr. Allen in question, "The Normal Standard of Woman for Propagation." By the "normal standard" we are intended to understand the highest standard, or most perfect development, which physiology can present; a standard which, to be normal both in structure and function throughout, must be based upon a physical system evenly and well developed in every part or organ, so that each can perform its respective functions in harmony with all the rest. This standard, as Dr. Allen says, must have its basis in the highest or most perfect development of the body as regards its anatomy and physiology. In order to understand such a law of Nature, it is shown that there are many considerations to be looked at carefully. The health and constitution of woman—the peculiar effects of gestation and the physical changes occasioned by it—her qualifications for nursing and taking care of her offspring, and, finally, the organization and character of that offspring. Primarily, we are shown that in the consideration of the whole subject we are to constantly bear in mind that child-bearing is the normal state of woman—that it harmonizes with her whole organization, and that the leading features and controlling forces of her organism are evidently intended for this purpose. It is also insisted upon that the observance of this law has been found to be absolutely necessary for the most complete development and perfection of woman's organization, this having been conclusively proved by statistics on a large scale. We are shown that, if there is a normal standard in the organization of woman based upon the principles of physiology, we are to look for its effects and manifestations in pregnancy and in parturition; in the qualifications for nursing; and, finally, in the character of the offspring. It is found that, in proportion as we find female organizations approximating to more perfect standards, and the nearer we approach a sound, well-balanced, and perfectly-developed organization in all its parts, with perfection of structure and harmony of the functions of every organ, the less marked and serious are the disturbances and diseases of pregnancy, and the greater the ease and safety in delivery. It is also found that the qualifications for nursing, or providing the proper amount and quality of nourishment to the offspring, increase as we approach the normal standard of female organization, in which the mammary glands are well developed; lactation in the natural order of things following parturition, just as that process must necessarily follow the pregnant state, it being intended by the laws of Nature that the child, for months at least, should subsist upon pure breast-milk. Finally, it is shown that the nearer we approach the normal standard of female organization, the nearer we get to a perfect, sound, healthy constitution in the offspring, free, comparatively, from weakness and predisposition to disease, and with organizations adapted to enjoy good health and long life. Dr. Allen then takes up the changes from the normal standard of female organization, and gives it as his opinion that they are changes which have grown out of an artificial type of civilization, from wrong habits, pernicious customs and fashions, and from an unnatural culture and refinement where the laws of health and life are altogether too much violated; and he also insists upon the fact, that these changes have not been the growth of *one* generation, but of *many;* and that, by the laws of inheritance, they have become greatly increased, and their effects intensified. He tells us, and very truly, that in a high state of refinement and culture the nervous temperament becomes predominant, thereby increasing the individual sensitiveness to changes and susceptibility to pain, while, at the same time, other parts or organs become so enervated or reduced in vitality as not to afford the assistance which Nature requires in childbirth. He speaks of families and individuals where, by inheritance and constant exercise, the muscular tissue, so indispensable in such a process, has become excessive, as it is in some cases deficient, and that, in such cases great resistance, as well as rigidity, will be found in the uterus, and sometimes in the soft parts. Again, artificial habits may not only have reduced the vital energies of the system, but changed the size and structure of the pelvis itself, so as to interfere seriously with parturition. Dr. Allen justly complains that in a high state of civilization there is a large amount of indolence, luxury, false modes of living, injurious styles of dress, and other evil practices that interfere, not only with a natural and a healthy state of the whole body, but concentrate their evil effects particularly upon the pelvic organs, and that these effects, by inheritance, become greatly intensified in their form and extent in successive generations. Dr. Allen criticises the constant compression of the chest and abdomen which prevents the proper development of the mammary glands and impairs the development and healthy action of the lungs, heart, and digestive organs, as well as the pelvic organs. Turning to the relief for all this, Dr. Allen very properly says that, by the investigation of the facts connected with propagation, such as the complaints of pregnancy, the difficulties of parturition, and infantile disease, we shall more clearly understand their causes, and what particular laws have been violated, and shall thus be enabled to devise new means for relief; that we shall by such study be shown what types and models of female organization are best adapted for propagation—most exempt from pain and trouble—best qualified to nurse their offspring, and transmit a sound, healthy stock; that new light, by such study, will be shed upon the laws of inheritance, explaining changes which the body may have undergone in past generations, and suggesting what are some of the most fruitful sources of improvement. We are told that, while we cannot easily or hastily reform the present artificial state of society, yet we may, by our instructions, exercise an influence that in time will tend to improve and modify these agencies, including the law of inheritance; we should enforce, as far as possible, the observance of sanitary and hygienic laws, and should encourage all influences, both mental and physical, calculated to improve the general health of woman, as, the more perfect her health is, the more evenly balanced will be her organization, the better will she be prepared for the duties of maternity, and the nearer we shall approach the normal standard of womanhood. We would commend Dr. Allen's paper to the careful and thoughtful consideration of every physician who takes an interest in this important subject, and think it will amply repay careful perusal.

Art. II.—*Les Causes de la Gravelle et de la Pierre.* Par le Dr. Debout D'Esties. Paris: V. A. Delahaye et Cie., 1876.

This monograph of one hundred and thirty-five pages is an admirable *résumé* of our knowledge of the origin and course of calculous disease of the urinary tract. The views of the French school only are given prominence, and the author has added valuable observations of his own, made during a nine years' residence at the waters of Contrexeville. Among the latter are four cases of uric-acid gravel, which were due to violent mental emotion, and an instance of contusion of the kidney in a child of thirteen years, giving rise to the same condition. Of phosphatic gravel the author recognizes two forms, the primary, consisting chiefly of phosphate of lime, with carbonate of lime, the urates and alkaline phosphates, and the secondary, constituted by triple phosphate. The primary he has met with in anæmic and tuberculous subjects, and sailors from China and Senegal, and believes it due to a mal-nutrition, the organic matters being used up and the minerals left in excess in the circulation. Lesions of the nerves which preside over the renal function may also give rise to it. In the production of the secondary form he acknowledges as well-known causes, fermentation of urine, continued use of alkalies, etc., etc. The pages relating to the history of calculi after their formation contain nothing new, but the subject is systematically and exhaustively treated. The entire treatise is to be recommended as a valuable book of study and reference.

ART. III.—*Chirurgie Antiseptique. Principes Modes d'Application et Résultats du Pansement de Lister.* Par le Docteur JUST LUCAS, Championnière, Chirurgien des Hôpitaux. Paris, 1876: J. B. Baillière et Fils.

IN the one hundred and fifty pages which comprise this volume the theory of antiseptic surgery is discussed very briefly, but the practice is accurately described in all its details (as the writer has reason to know from personal observation). Figures of apparatus and instruments accompany the text, directions are given for making the materials, and formulæ are added. The author not only states the general results afforded by the statistics of German and French surgeons, in addition to those of Mr. Lister, but dwells fully on the beneficial effect of the method in the repair of wounds, its employment in special cases, as abscesses, chronic fistulæ and ulcerations, and complicated injuries. Mr. Lister's use of the catgut ligature and drainage-tube is described. Reference is made to the antiseptic methods of Thiersch (Leipsic) with salicylic acid, and of Minich (Venice) with sulphite of soda. It is interesting to know that MM. Verneuil, Guyon, and Labbé, of the faculty of medicine at Paris, are trying Mr. Lister's method with gratifying results. The leading German surgeons are earnest advocates of its advantages, and it is to be hoped that we shall soon see it put on trial at home. Certainly the perusal of the essay before us will inspire confidence in antiseptic surgery, and supply all information necessary for its thorough employment.

Art. IV.—*Atlas of Skin-Diseases.* By Louis A. Duhring, M. D., Professor of Skin-Diseases in the Hospital of the University of Pennsylvania, etc., etc. Part I. Eczema (erythematosum); Psoriasis, Lupus erythematosus, Syphiloderma (pustulosum). Philadelphia: J. B. Lippincott & Co., 1876.

Dr. Duhring, so well and favorably known to specialists in this branch, has set forth very clearly in his preface the advantages of illustrations in the study of skin-diseases, and has also called attention to the dissimilarities in the manifestations of the same disease in different countries. This is a fact which has long been recognized by dermatologists, and, while it has not been without influence in determining foreign publications, this is, we believe, the first attempt to define the differences observed in the United States.

We have recently (July, 1876) had occasion to speak of the value of illustrations to the student and general practitioner and of the difficulties in the way of a realization of our ideal. The present plates are chromo-lithographs, nearly or quite of life-size, and admirably executed.

Books and Pamphlets Received.—A Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. II., No. 6. The Modern Methods of Examining the Upper Air-Passages. By George M. Lefferts, M. D., Clinical Professor of Laryngoscopy and Diseases of the Throat in the College of Physicians and Surgeons, New York. New York: G. P. Putnam's Sons.

Orthopædic Surgery: Deformities of the Lower Extremities. By Van S. Lindsley, M. D. Read before the Medical Society of Tennessee, April, 1876.

Seventeenth Annual Announcement of the Miami Medical College of Cincinnati, 1876–'77.

On Port-wine Mark and its Obliteration without Scar. By Balmanno Squire, M. B., London. London: J. & A. Churchill, 1876.

Transactions of the Medical and Chirurgical Faculty of Maryland. Seventy-eighth Annual Session, April, 1876. Held at Baltimore.

A Sketch of the Life and Writings of Louyse Bourgeois, Midwife to Marie de Medici, the Queen of Henry IV. of France. The Annual Address of the Retiring President of the Philadelphia County Medical Society. By William Goodell, A. M., M. D. Delivered June 5, 1876.

Twenty-seventh Annual Announcement of the Woman's Medical College of Pennsylvania. Philadelphia, 1876–'77.

Proceedings of the Connecticut Medical Society, 1876. Eighty-fifth Annual Convention, held at New Haven, May 24th and 25th.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., F. R. C. P., Professor of Obstetric Medicine in King's College, Examiner in Midwifery to the University of London, etc., etc. London: Smith, Elder & Co. Philadelphia: Henry C. Lea, 1876.

Manual of Percussion and Auscultation, of the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By Austin Flint, M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in Bellevue Hospital Medical College, etc., etc. Philadelphia: Henry C. Lea, 1876. Pp. 256.

Theory of Medical Science. The Doctrine of an Inherent Power in Medicine a Fallacy. The Ultimate Special Properties of Vitality and the Laws of Vital Force constitute the Fundamental Basis of Medical Philosophy and Science. By William R. Dunham, M. D. Boston: James Campbell, 1876.

On the Successful Treatment of Some Forms of Peripheral Paralysis. By John Van Bibber, M. D. Reported from the Transactions of the Medical and Chirurgical Faculty of Maryland, April, 1876.

Eighth Annual Announcement of the Indiana Medical College. Session, 1876–'77.

Chirurgische Studien und Erfahrungen. Von Dr. Carl Fieber. Wein, 1875.

A Medical and Surgical Directory of the State of Iowa, containing Names, Post-office Addresses, and Professional Status of Physicians of the Medical Societies, Names and Residences of Officers, and a list of Members; a roster of United States Examining Surgeons. Also the Code of Ethics of the American Medical Association, of the American Institute of Homœopathy, and of the National Eclectic Medical Society, etc., etc. By Charles H. Lathrop, M. D., Lyons, Iowa. T. C. Hopkins, 1876.

Braithwaite's Retrospect. Vol. lxxiii. January–June, 1876. London: Simpkin, Marshall & Co.

Lithotomy: its Successes and Dangers. By a M. R. C. S. E. Melbourne: F. Baillière, 1876.

A Practical Treatise on Diseases of the Eye. By Robert Brudenell Carter, F. R. C. S., Ophthalmic Surgeon to St. George's Hospital, etc., etc. With one hundred and twenty-four Illustrations. Edited, with additions and test types. By John Green, M. D. Philadelphia: H. C. Lea, 1876.

Autumnal Catarrh (Hay Fever), with Illustrative Maps. By Morill Wyman, M. D., late Hersey Professor Adjunct of the Theory and Practice of Medicine in Harvard University, etc., etc. New York: Hurd & Houghton, 1876. Cambridge: Riverside Press.

Studies, chiefly Clinical, in the Non-Emetic Use of Ipecacuanha; with a Contribution to the Therapeutics of Cholera. By Albert A. Woodhull, M. D., Assistant Surgeon and Brevet Lieutenant-Colonel, United States Army. Philadelphia: J. B. Lippincott & Co., 1876.

The Theory and Practice of Medicine. By Frederick T. Roberts, M. D., M. R. C. P., etc., Fellow of University College, Assistant Physician and Assistant Teacher of Clinical Medicine at University Hospital College, Lecturer in the Liverpool School of Medicine, etc., etc. Second American from the last London edition, revised and enlarged. Philadelphia: Lindsay & Blakiston, 1876.

A Manual of Midwifery. By Alfred Meadows, M. D., Lond., F. R. C. P., Physician-Accoucheur to St. Mary's Hospital, Lecturer on Midwifery and the Diseases of Women and Children, St. Mary's Hospital Medical College School, etc., etc. Second American from the third London edition, revised and enlarged, with one hundred and forty-five Illustrations. Philadelphia: Lindsay & Blakiston, 1876.

Reports on the Progress of Medicine.

CONTRIBUTED BY DRS. GEORGE R. CUTTER, EDWARD FRANKEL, SAMUEL B. WARD, E. H. BRADFORD, AND W. T. BULL.

SURGERY.

Debate on Syphilis.—The recent discussion on syphilis, before the London Pathological Society, was opened by an introductory address, delivered by Mr. Jonathan Hutchinson, Senior Surgeon to the London Hospital. He premised by saying that the dualistic theory of the older surgeons, and the pluralistic doctrine of Carmicheal, might now be considered dead; that the generally-received opinion was, that there was but one malady and one virus capable of producing constitutional effects; the soft chancre being due to contagion with inflammatory products produced by syphilis, but not containing, as a rule, its germs. He then proceeded on the assumption that syphilis was a specific fever, engendered by contagion, and of prolonged but definite stages, the variations in which would be no greater than they are in variola, were they not delayed by the administration of mercury. The true history of syphilis, uninfluenced by treatment, he considered to be this: After a period of incubation comes a period of outbreak (known as primary symptoms); then a period of efflorescence or exanthem (known as secondary symptoms); and here its natural life ought to end. In exceptional cases there follow sequelæ, to which the name of tertiary symptoms has been given. It ceases to be a blood-disease at the close of the second stage, as is shown by the want of symmetry on the part of the sequelæ, which latter are purely local in their character, and often amenable to local treatment. There is a point, then, where syphilis ceases to be transmissible from individual to individual, though still transmissible from parent to child, and this is at the close of the second stage. The tertiary stage was not regarded as contagious, although hereditary transmission may persist long after the cessation of blood-contamination. The speaker then drew attention to the peculiar tendency of syphilitic inflammation toward new growth; one is tempted to speak of cell-proliferation rather than inflammation; and next raised the point that, to attempt to distinguish between the second and tertiary stages by saying that the latter only is attended by liability to deep ulceration, was to set facts at defiance. He further continued, that so marked is this liability to phagedæna in syphilis, that we may count it, either directly or indirectly, with few exceptions, as the parent of all phagedæna. And "when the wizard Syphilis has once called up the demon Phagedæna, it has evoked that which it is powerless to control. No law of spontaneous cessation and recovery will now be observed; nor will the specifics for the parent malady avail much as regards the offspring. Phagedæna, once started, exists on its own behalf, and spreads by the contagion of its own pus. To arrest its spread it is necessary to destroy its secretion." Concerning the term "period of gummata," which some writers have proposed as a substitute for that of "tertiary stage," he declared it to be unwarranted, and calculated to mislead; and he ventured to predict that, when attention came to be directed to the point, it would be found that visceral lesions in the secondary stage were much more common than is now supposed, and that they probably tend, like all other lesions of that stage, to spontaneous cure. The next suggestion offered was the hypothesis that the tertiary gummata are the regrowths of structures left behind in the secondary stage, or the local rejuvenation of long-suppressed germs. Virchow, in part, advances a similar theory.

The speaker contrasted the course of inherited with that of acquired syphilis, the former being marked by the frequent omission of early symptoms, and the great severity, even to a fatal result, in the secondary stage; while the great rarity of those conditions which are usually ranked as tertiary is worthy of notice. He alluded, in the second instance, to the occasional appearance of syphilitic keratitis, it might be twenty years after birth, and with no earlier symptoms noticeable. "It is clear that we have much yet to learn respecting the laws of hereditary transmission." Mr. Hutchinson's last point was, whether syphilis predisposes to scrofula or tuberculosis. On this point he decided emphatically in the negative. It was conceded that syphilis, as well as its treatment, might enfeeble the system, and that, during this state of debility, a person having a tendency to phthisis or struma might develop that proclivity. But, that syphilis predisposes to scrofula, or that scrofula, when present, modifies the syphilis, is denied. As good examples of the two, he referred to the kind of keratitis which occurred with each. Again, as regards lupus, he insisted that lupus was a tubercular disease, and, though certain forms of syphilitic eruption might come to resemble lupus, the two forms of disease were essentially different in their history and in their mode of treatment.

Mr. Hutchinson was followed by Mr. Henry Lee, who took issue on the blood-infection being limited to the primary and secondary stages. If it were not a blood-disease in the tertiary stage, he questioned the possibility of its transmission by the parent. Next, with respect to Mr. Hutchinson's classification of all forms of the primary disease under one head; Mr. Lee believed that there were three distinct forms in which the products of inoculation were seen: first, a new material, circumscribed, without a tendency to ulcerate or suppurate (the true infective chancre); second, a form which suppurated and ulcerated; and third, the form in which solid matter was deposited without the characters of the first, but diffused itself around, and had a tendency to degenerate. The first was infective; the second never was; and the third was an intermediate form.

Dr. Drysdale arraigned Mr. Hutchinson for the assertion that the theory of dualism was dead. In the main, he accepted his views concerning the secondary stage, and the relation of scrofula to syphilis; he, however, did not concur with him in the opinion that the tertiary stage was one in which the blood was not infected.

The discussion was renewed at the next meeting of the Society by an able address from Sir James Paget, who supported many of the positions taken by Mr. Hutchinson. He upheld the opinion that there was but one malady and but one virus; "that in syphilis we have to deal with a specific fever of prolonged but definite stages;" and that the term "sequelæ" was preferable to tertiary symptoms," which latter recognized a distinct stage. Symmetry he considered of the utmost importance in determining the nature of disease. As the sequelæ of syphilis were never symmetrical, so also with other fevers; and some fevers (ague) even equaled it in duration. As to whether the absence of symmetry was evidence that blood-disease had ceased, he said that syphilis, in this respect, agreed with all blood diseases that begin symmetrically. On the whole, he would still continue to believe that, as long as syphilis appeared at all, it was a blood-disease, for—1. The local disease could hardly be quite spontaneous, and yet syphilitic outbreaks seemed to be so; 2. In local disease, the kind of disease was in proportion to the force; but in syphilis very small external force would produce serious disease; 3. The forms were very characteristic, and easily diagnosed, whether ulcers, joint-disease, or periostitis; and lastly, tertiary syphilis frequently required specific treatment; this, after all, might be local, yet it had to be administered through the blood. Sir James differed from Mr. Hutchinson's view that struma, gout, tubercle, or psoriasis, did not effect a modification of syphilis. He thought with him, however, that the gummata of the third stage were regrowths, although rarely symmetrical; that syphilis did not possess any intrinsic predisposing influence toward scrofula; and, in the relation of lupus to syphilis, he also concurred with Mr. Hutchinson.

Dr. Wilks spoke next. He believed that syphilis was the exact counterpart of other febrile diseases—a disease, *per se*, with sequelæ. Visceral lesions he deemed not secondary to, but contemporary with, primary symptoms; and he believed, further, that just as the poison of scarlet fever might show itself chiefly in the throat, the skin, or the kidneys, so the external manifestations of syphilitic poison were likely to be inversely proportioned to the visceral lesions. Concerning the relation of syphilis to scrofula, he quite concurred with the views expressed by Mr. Hutchinson and Sir James Paget.

Dr. Hilton Fagge introduced a new view of syphilis, namely, its effect in producing lardaceous disease; he considered the latter due either to this or to chronic suppuration. He held that syphilis might conduce to phthisis by its influence on the health, but not otherwise.

Its being a blood-disease from first to last was also advocated by Mr. Berkely Hill. He believed that the usual history in a syphilitic family was, that the first children were born dead; the next born healthy, but became diseased with secondary lesions, the secretions from which gave rise to primary symptoms; and he further believed that, if an individual acquired the disease from a person in whom it was getting exhausted, he would experience it in a mild form; also, that the reverse was true. Lymphatic temperaments he considered prone to suffer. He would subscribe to Dr. Wilks's views in regard to visceral lesions, and did not think that dualism could be said to be dead, since the best text-books in English, French, and German, represented the soft chancre as not being connected with the true.

Mr. De Méric then spoke in favor of the dualistic theory. One point made was that the exanthematic theory broke down before the fact of the heredity of syphilis. That syphilis was the cause of all phagedæna he deemed almost too sweeping an assertion. He thought that the term "tertiary stage" might still be retained, and did not believe in any real symmetry in secondary eruptions.

The discussion was continued at the next meeting by Dr. Broadbent. Passing over the primary points raised, he took up the subject of the later history of cases of congenital syphilis. His experience led him to unite with Mr. Hutchinson in the opinion that these cases were not liable to syphilitic disease of the nervous system, to nodes, to gummata, or to serious disease in after-life, once the first stages were past. It struck him that the syphilitic physiognomy was very rare after middle life. He had seen in syphilitic children gummata of the tongue, skin, and palate; and thought that granular disease of the kidney was one means of carrying them off at a later period. Others, again, perished from amyloid disease; and he had one case of aneurism of the aorta, apparently due to congenital syphilis. Dr. Broadbent then defined the group of fevers to which syphilis could be compared as that in which (1) the poison was reproduced from without, derived from a preëxisting case of the disease; (2) the poison was reproduced in the individual; (3) a very definite course and duration were observed; and (4) the same individual was attacked only once during life. He was, therefore, led to exclude pyæmia and ague. One condition requisite for its classification among fevers syphilis refused to fulfill, and that was regularity in its course. It was for this reason, probably, that Mr. Hutchinson named "tertiaries" "sequelæ;" that being the only obstacle. This he regarded as wrong, the tertiary stage being specific and easily recognizable in its manifestations. The liability to tertiary symptoms, when the secondary had been slight, appeared to point to regrowths. The fact that a parent with tertiary syphilis might transmit it to his offspring, who would go through a full course, seemed to mark it as a blood-disease throughout. Another difficulty concerning tertiaries arose out of the fact that a woman might become syphilitic by indirect contact with a syphilitic fœtus, and that under these circumstances she might have no secondary symptoms at all, but go straight to tertiary. All these difficulties he set forth, not because he objected to the theory of syphilis being a fever, but because he desired to see the difficulties removed.

Dr. Buzzard brought forward some interesting statistics. Of one hundred cases of syphilitic disease of the nervous system, the mean age of the persons affected was 35 years. No case was here included in which renal or circulatory disease was discovered. The date of the infection had been discovered in 83 cases; of these 56 occurred at a date later than 5 years, and 27 under 5 years. Altogether the appearance was noted at from 1 to 25 years after infection: in the first 5 years there were 27; in the second 5 years, 23; in the third, 25; and in the other two periods of 5 years, 6 and 2 cases respectively. Of those occurring in the first 5 years, 6 occurred in the first 2 years, 4 in the third year, 6 in the fourth, and 11 between the fourth and fifth. The chief forms of disease were hemiplegia, paraplegia, and convulsive affections. He was inclined to the belief that tertiary symptoms represented a renovation of early germs.

Sir William Jenner followed. He said that he failed to see that symmetry was a mark of blood-disease, or that the converse was true; or that it was even characteristic of certain diseases. It had been said that acute infectious diseases were not followed by distinct sequelæ. He called to mind diphtheria, which was followed by unmistakable nervous lesions, and these lesions were part of the disease, quite different from the renal sequelæ of scarlatina. As to congenital syphilis, the physician saw in it something very different from a disease of the blood; he observed that two cells, the sperm and the germ, produced the diseased child, and yet each particle developed from these cells had a specific character. The first development of the disease was, therefore, in the tissues and not in the blood, and, as in cancer, the sperm gave the potentiality of development; and it was the same in every congenital or hereditary disease. In syphilis the appearances were observed early; in cancer late. The fathers gave this potentiality of development to all tissues, to the color of the eyes and of the hair, even to the weakness of the hair and other tissues. Thus the potentiality of development, and not the blood, was the real key to the problem.

Dr. Moxon also gave some statistics. He stated that the average age at which visceral syphilis had proved fatal in 56 cases, which had come under his observation, was 37 years. His experience was useful in prognosis, going to indicate that visceral syphilis was both rapid and fatal when once present; and with Sir James Paget he believed that mercury was necessary for a complete cure. Concerning the symmetry of syphilis, he pronounced it a fallacy; since there were so many thousands of blotches in a secondary eruption, it could not avoid being symmetrical; when his umbrella got symmetrically wet in a shower, the symmetry depended on the form of the umbrella and not upon the rain. This he called "the fallacy of universality." Again, it was said that secondary syphilis attacked both corneæ; it was because the patient had no more to be affected. If the poet that had "longed to become all eye" had had his wish, and then caught syphilis, he would probably have presented a universal keratitis. As to the tertiary lesions not being symmetrical, he had lately seen four cases in which they were markedly so. Still further, he did not believe that syphilis was ever a disease of the blood; though it might be given by the blood, it no more belonged to the blood than a physician who happened to be riding on a train belonged to the railroad company. The fact that the placenta was affected only with fatty degeneration was explained by the inability of that poor organ to contract tonsillitis, keratitis, or choroiditis. Further than that, Dr. Moxon not only believed that syphilis was not a blood-disease, but that all febrile disorders, when they strike virgin soil, raged with great freedom—as, for example, small-pox among the Indian tribes; the severity of fevers in strong subjects, and the immunity from a second attack. Upon these latter facts he would found the speculation that tertiary syphilis came not by breaking out again, but by appearing in newly-formed parts, whether in the central nervous system or elsewhere. The speech is said to have been "immensely amusing," and to have "put the house in thoroughly good-humor both with itself and the speaker." One of the London editors remarks at its close, "further discussion would be wearisome, and it is high time the society returned to its normal avocation of mentally devouring plates of pickles."

Nevertheless, the adjourned discussion was reopened by Mr. Thomas Smith. He questioned Mr. Hutchinson's assertion that the tertiary symptoms appeared to prove by various characteristics that the blood was not concerned. He believed that syphilis was a blood-disease almost to the end, basing his position on the fact of hereditary transmission. Mr. Hutchinson had acknowledged that the difference in the symmetry of the eruption in the two stages was "merely a question of abundance;" hence, the idea of the non-affection of the blood in the tertiary stage could not be supported. Mr. Smith allowed that some cases were curable locally during the tertiary stage, but many were not; this, too, pointed to disease of the blood. The development and transmissibility of syphilis and gout were then contrasted, and again the verdict of a blood-disease in tertiary syphilis reached.

Sir William Gull said that the poison was probably connected with the generative fluids. If so, its all-pervasiveness was not remarkable. It had been a favorite speculation to place syphilis among fevers. Yet its poison was quite peculiar, in the respect that variola in father or mother will not influence the children, nor would typhus, typhoid, measles, or any so-called fever. Syphilis was not limited in time. It had been said that if it were left alone this would be otherwise. Indeed, Nature might stamp it out, but generally it was unlimited. Was it a blood-disease? As for himself, he thought syphilis was a flesh-and-blood fever. He agreed with Mr. Smith that it was a constitutional disease, and that its effects might continue through a whole lifetime; "once syphilitic, syphilitic ever." It could be traced in the hair, complexion, and smell of sweat. Sir William thought it was a great advance, to recognize that there was but one poison, which produced an infinite variety of effects, and that the division into three stages was an artificial one.

Sir William was followed by Mr. Simon, who stated his belief that syphilis was a flesh-and-blood disease. He did not know what a blood-disease was. Of course, at one time syphilis was very abundant in the blood, and all that comes from the body is infective, whether it be the sperm, the secretion from an ulcer, the catarrh from the uterus and vagina, or vaccine lymph from a child. But no abrupt line could be drawn between this and the tertiary manifestation; the quantity and power of the poison gradually diminished. Again, as to gummata. He understood a passive but not an active sequela. Gout and syphilis he did not consider comparable. The difference of effect, in syphilis, was one of degree only and not of kind. As to gummata being the deferred manifestation of change of tissue in the secondary stage, it seemed more probable to him that they resulted from the weak action of a contagium that had been present in the part from the first, but had not changed the part itself. Whether syphilis itself might not appear in more than the next generation, was a question. He himself had seen one case where this seemed to have occurred. Finally he thought there was a marked distinction to be drawn between the hereditariness of gout, which was analogous to the transmission of a Roman nose, and the hereditariness of syphilis, which might be likened to that of some of the silk-worm diseases, in which a material something was transmitted from parent to progeny through the ovum or sperm.

Sir William Gull wished to make an explanation on a point just mentioned by Mr. Simon. It used to be thought when a given disease was sometimes pustular, at others, papular, etc., that this variety was due to a variety of poison. We could now say that it was due to differences between individuals.

Mr. John Wood then spoke. He said that there were still persons who believed that there was more than one disease in syphilis. He, himself, believed that the varying results (soft and hard sore, etc.) depended upon the virulence and dose of the poison, and the capacity for resistance of the individual. Mr. Wood believed that no line could be drawn between the stages. Mr. Hutchinson had seemed to agree with Dr. Wilks, that all tertiary lesions were laid down at the time of the secondaries. If this were so, then Mr. Hutchinson had laid too much stress on symmetry in the secondary stage, and asymmetry in the tertiary. Was it true that races of men were becoming syphilized? Was the disease getting milder? If not, why did it take a severe form among the Africans?

Surgeon-Major Robinson said he wished to express the opinion of many army medical officers on this subject. Most of them believed in the unity of syphilis. As regards hereditary syphilis, he thought, from what had been said, that the hereditary form was more common in civil than military life. Among soldiers' children, syphilis was uncommon. Men seldom passed through the service without having it, and their children could be traced; yet, after an experience of thirty years, he could say that hereditary syphilis was rare among them. He had found that of eight men suffering from phthisis, four had recently had syphilis.

Mr. Vining then made a few remarks.

Dr. Farquharson thought there was no reason why the soft sore should not be considered a pathological unit. His experience was that mercury had the effect of rendering the evolution of syphilis more regular.

Dr. Greenfield presented the result of some observations on the histology of syphilis. In examining new growths of syphilis and gummata, he found that the appearance was the same at all periods. It appeared to him, that if one found uniformity of process, at first and at last, consisting in a peculiar mode of origin, growth, and degeneration, then one ought not to speak separately of gummata, but of all, as syphilitic new growths. Again, he considered the analogy of syphilis to the specific fevers had been rather forced. The points in its favor were inoculation, local development, an incubation period, diffusion into the blood, and then, an exanthematous fever. From this point the analogy ceased and syphilis became *sui generis.* Respecting hereditary syphilis, he raised the pertinent question, whether the early, or "secondary," symptoms are observed in all cases that present the characteristic affections of the teeth, eyes, etc., in later life.

Dr. Gibbon deemed syphilis and phthisis associated, but could not believe syphilis an exanthem. He suggested the employment of peroxide of hydrogen in syphilis, as there seemed to be a deficiency of oxygen.

Mr. G. D. Pollock, the President of the Society, next summed up the debate, laying particular stress on those points on which the participants were at variance with Mr. Hutchinson, and which seemed to him most forcible.

Mr. Hutchinson's reply was marked by the same ability which characterized his introductory. In the main he adhered to the views first expressed, and in which there had been a pretty general concurrence. In reply to the argument that the germ-poison of syphilis had never been put under the microscope, he said that there are surely cases where deduction amounts almost to proof; and that to his mind's eye they were as certainly present as if he had seen them with his outward eye, as some observer some day would. He proposed to call these germs the *syphilitic yeast*, so as to force our minds to keep more clearly in view the possible development of the theory.

The argument that we had in mercury a specific for syphilis, while none such existed for the exanthemata—which fact no one had been bold enough to deny—was *not* an argument against placing syphilis in this class, but was a good ground for hope that we might some day discover as reliable a remedy for the rest.

With regard to syphilis being a blood-disease, the speaker expressed himself more clearly than he had previously done. In the primary stage he regarded it as clearly a tissue-disease only. It next gained access to the circulation, and while it was, during the secondary stage, mainly in the blood, it could not be circulating with that fluid many days, probably not many hours, before finding its way into the tissues. He would denominate it, then. a flesh-and-blood disease, or to denote sequence more accurately, a blood-and-flesh disease. At a later period he regarded it as having died out of the blood while still present in the solid and less unstable tissues. He justly stated that the only way to settle the question would be by inoculating the blood at different stages upon healthy individuals, which was unjustifiable; or by carefully observing cases in which this was done by accident, in vaccination, and the like.

From his experience he laid it down as a rule, that there was no danger of a man's transmitting the disease to his children if he delayed marriage until two years after the disappearance of the secondary eruption. He disposed of the argument against his view founded on the stated asymmetry of the second stage, and the occasional symmetry of the tertiary or sequelæ, by repeating his assertion, that the secondary lesions were symmetrical, and simply asking his opponents to verify the statement by stripping their patients in a good light; while he himself had reported cases of symmetry of the sequelæ because they were so rare as to be of great interest.

It had been argued that the acute exanthemata were not hereditary, and in this respect differed from syphilis. He would reply that none of them were hereditary except during the period in which the specific poison is *living* in the blood and tissues; and in the more acute exanthemata this period is so short, and the patient's general condition such, as to preclude the possibility of his becoming a parent.

From the acknowledged truth of the well-known observation of Abraham Colles, that syphilitic children nursed at the breast affect wet nurses, but never their own mothers, the speaker was inclined to the belief that immunity of the mother could only be accounted for on the hypothesis that every mother of a syphilitic child contracted syphilis, in a modified form, perhaps, from her fœtus during pregnancy if she had not previously had it. In some cases the infection shows itself by very slight skin lesions, while in others these latter are entirely absent. If this be so, it would constitute a marked resemblance to the protection which vaccinia affords against variola.

The discussion closed by Mr. Hutchinson's referring to a number of points on which we need more accurate and more numerous observations. —*Medical Times and Gazette*, *British Medical Journal*, and *Lancet*, February to April, 1876.

If we may be allowed a few words of comment on this very important and very interesting discussion, we would say, in the first place, that Mr. Hutchinson's views concerning dualism seem to have been somewhat misapprehended. As an advocate of the theory of unicity, he claims simply that there is "but one form of virus capable of producing constitutional effects." In this statement we presume that all will agree. He admits the existence of a soft sore—a non-infecting chancroid—and to that extent may be considered a dualist. He states his belief that this chancroid is due to contagion with inflammatory products remaining at the site of an indurated chancre which has lost its specific character. He thus accounts for the *appearance* of this soft sore; but we presume that he would readily agree that an individual having thus contracted a chancroid might inoculate it upon a dozen others, in none of whom would constitutional effects develop. The difference, then, between the unicity of Mr. Hutchinson and the dualism commonly accepted in this country, lies only in the answer to the question, Is it possible for the true chancre, at any period of its existence, to produce, by inoculation into a healthy individual, the soft sore?

Concerning the question of syphilis being a blood-disease, it seems to us that Mr. Hutchinson would have expressed his meaning a little more clearly had he stated his belief that it was a disease *in* the blood at one period, and *in* the tissues at another. The pathology of trichiniasis is now pretty well settled,[1] and affords an analogy—very rude it is confessed —but which will serve to illustrate Mr. Hutchinson's theory, if we apprehend it aright. *First period*, or that of *incubation*. The encysted trichinæ are introduced into the stomach, and the succeeding eight or ten days are occupied in rupturing the cyst and the complete development of the larvæ. So the syphilitic yeast is supposed to have been introduced into the system (lymphatics, if you choose), and to be there undergoing a process of development. In the *second stage* millions of embryonic trichinæ make their appearance, pass into all portions of the alimentary canal, and out of it by the shortest route into the muscles, a portion of them to be found at a certain period in each locality. So the syphilitic yeast increases infinitely and multiplies, and circulating with the blood infests every known tissue of the body. At a later period the trichinæ are no longer to be found in the intestinal canal, and the alvine dejections would no longer poison another animal. They become encysted in the muscles, which entering into another animal's stomach will, for a long period thereafter, poison it; finally, the death of the parasite is caused by the deposits of calcareous salts. So with the syphilitic germs, according to Mr. Hutchinson. For a time the blood contains them, and will serve as a carrier of the poison just as the intestinal discharges in the other case. Then follows a period during which the trichinæ exist only in the solids (muscles), just as the germs are supposed to do (in the spermatozoa), during which time there is a possibility of hereditary transmission. And last of all, in both cases, they disappear; the meat may be eaten with impunity, and the previously-syphilitic father begets healthy children.

We admit the comparison to be a *very* crude one; but is it any worse than trying to reason from gout, with its "potentialities of development," to a zymotic disease? We cannot say that we have any saving faith in the hypothesis. But "a theory is a good thing to have," and we shall gladly listen to him who proposes a better. S. B. W.

Air as an Anæsthetic.—The following article by P. D. Keyser, M. D., is taken from the *Philadelphia Medical Times* of July 22d:

It is a well-known fact that, in ophthalmology, there are many little operations of a very painful nature that occur almost daily in hospital, as well as in private practice, which are really too quickly performed to require the use of an anæsthetic, but which, in many cases, from the great pain and sensitiveness of the patient, cannot be made without it; and, in many, if not the great majority of cases, there is such an after-sickness and depression from the use of ether or chloroform that it seems very hard that one should suffer so long with this dreadful nausea for a little affair that could be accomplished in a few seconds without any after-suffering, if the patient could only hold still for a moment.

How grateful, therefore, should we feel for the suggestion of anything to take the place of ether or chloroform in dulling sensation in cases of small operations where complete anæsthesia is hardly necessary?

Some considerable time ago my friend Dr. W. G. A. Bonwill, of this city, related to me his experience with the use of air as an anæsthetic in dental operations, and asked me to try it in my practice, since which time I have tried it with very happy results on many occasions. My experience with it has been, however, entirely in small or rather short but painful operations, as its anæsthetic action is not long enough for larger or more tedious manipulations.

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[1] "Transactions, New York State Medical Society," 1869, Article xii. Dr. E. R. Hun.

Foreign bodies in the eye are of very frequent occurrence, and in children and nervous people, who will not remain quiet, very difficult of removal. In such cases I have found that, by getting the patient to make deep and quick inspirations of the ordinary air of the room for a few seconds to a minute or so, the eye can be opened without difficulty, and the foreign body removed from the cornea or under the lid, with ease, and without the least pain or inconvenience to the patient.

In cases of painful hordeolum, which require to be opened, it affords a most happy assistance.

In slitting up a canaliculus, as well as in the introduction of Bowman's probes, it is equally efficient.

It is to my mind one of the simplest, and, at the same time, one of the most beneficial agents in small operations about the eye that has been presented to the profession; its application being very easy, requiring no recumbent position on the part of the patient, calling for no apparatus for its administration, and being perfectly free from any of the disagreeable effects of ether and chloroform.

To produce the proper effect, the patient must open the mouth, breathe freely, quickly, and deeply, and after a few seconds or minutes of such steady continuous breathing, the symptoms of partial anæsthesia supervene, as is evidenced by the absence of feeling on pinching or pricking with a pin. At this stage, any operation should be made. The anæsthetic effect passes almost immediately away, and the patient feels no pain in the operation if done dexterously and without hesitation.

From my experience I take pleasure in recommending its use very highly, not only to ophthalmologists, but also to the general surgeon, where minor operations are to be performed.

Any one interested in the subject I would refer to an article by Dr. Bonwill on "Air as an Anæsthetic," in the *Pennsylvania Journal of Dental Science.*

Pregnancy and Surgical Lesion.—M. Verneuil read before the Société de Chirurgie, at Paris, a paper on the effect of pregnancy upon surgical affections, dwelling not alone on its effect upon the mortality of operations, but particularly upon the progress of wounds and also of the effect of operations upon the course of pregnancy. He classifies his facts under three heads: 1. Cases where pregnancy seemed to have no effect upon the progress of surgical affections or operations, and *vice versa.* 2. Cases where pregnancy appeared to have a more or less favorable influence. 3. Cases where its influence was deleterious.

A number of cases were cited, of which the following will serve as examples: Thoracentesis in a woman in the seventh month of pregnancy. No disturbance of gestation; healthy child born at full term. A pregnant woman received a contusion of the toe causing loss of the nail, and a flabby ulcer, which made no improvement under treatment, remaining obstinate for some time. Immediately after confinement ulceration healed rapidly. A woman suffering with vesico-vaginal fistula was operated on first for dilatation of strictures which were found in vagina, and afterward for the fistula. Four days afterward a uterine hæmorrhage took place, and two days later an ovum at two months, the existence of which was not suspected by the operator or woman, came away. The operation for the fistula was successful, though it had had an injurious effect on the pregnancy.

M. Verneuil insists upon the utility of studying the relations of pregnancy and the course of surgical affections, instead of, as has hitherto been done, simply observing the simple effects of the operation upon pregnancy.

M. Gueniot, in regard to this matter, states that in the literature of the subject some two hundred and forty cases have been recorded—one of the most remarkable is that mentioned by Baudelocque (1789). A woman in the eighth month was tossed by a bull; the abdomen and uterus were pierced by the horn. There was hæmorrhage, and the fœtus projected from the wound. An hour later a surgeon delivered the woman, washed the intestines and uterus, and sewed the abdominal walls. The woman recovered. The child died in eight hours.

M. Gueniot suggests as explanation of the fact that in some cases comparatively slight lesions bring on abortion, the possible existence of disease of the ovum. In other cases the severest accidents have not interfered with the course of gestation. Maurice recounts that a woman in the seventh month of pregnancy threw herself from a third-story window, falling upon the pavement—fractures of arms and legs were the result, but the fœtus was carried to full term. M. Gueniot concludes that traumatic contusions are not of themselves sufficient to cause abortion; some other cause must be influential.

Instances of fractures, resections, surgical operations, disarticulation of the shoulder (Nicaise), amputation of the thigh (Labbé), ovariotomy (Pollock, Marion Sims, Spencer Wells), amputation of a cancerous cervix (Todd), have not interrupted the regular course of gestation. Seven operations for strangulated hernia are collected by Masset performed on pregnant women; there was but one abortion. In seventeen cases of ablation of vegations of the vulva there were three miscarriages. Operations, therefore, in the genital region (meaning by this the vulvo-uterine and ano-perineal region) seem to be frequently a cause of abortion.—*Gaz. Hebd.*, May 26, June, 2, June 9, 1876.

Amputation of the Arm by Means of the Elastic Ligature.—In the *Lyon Médicale* this operation is recorded as performed by Prof. O. G. Silvestri, of Vicenza. Surgeons naturally hesitate to perform resection or amputation in cases of white swelling of the knee or elbow. The process not being arrested on account of inadequate remedial measures, the patient loses strength, and becomes extremely emaciated; it is at this period of the disease that the operation is usually performed, though the general condition of the patient would almost contraindicate any active interference. Silvestri, who first introduced the elastic compression known under the name of "Esmarch's method," has proposed the employment of the elastic ligature in the above cases, and has published a case in which the result was most gratifying. It was that of a young man, twenty-two years old, of a scrofulous constitution, who for six months had suffered from caries of the sixth, seventh, eighth, and ninth ribs in their convexities; there was complete caries of the left elbow-joint, and the right hand was threatened with the same condition. There were high fever, colliquative sweats, and diarrhœa which would yield to no treatment; absolute anorexia, intense pains in the elbow, and extreme emaciation. Though the condition of the elbow-joint indicated an operation, the feebleness of the patient contraindicated it. But, as the patient was urged to have something done, Silvestri, with the consent of his colleagues, resolved to apply the elastic ligature. On the 8th of May, 1874, accordingly, the patient's arm below the insertion of the deltoid was enveloped with a gum-elastic band, abont two millimetres in diameter, and covered with silk thread. Twenty turns of the band were made, the latter being always kept in its greatest extension, and the two ends were tied with a silk band. The patient received seven and a half grammes of chloral, which produced sleep. No pain was experienced. The pressure exercised, calculated according to the elasticity of the band, was equal to twenty-one kilogrammes at each point, consequently forty-two kilogrammes for the whole diameter. The pulse at the time of operation was 100; five hours after 112, and six hours after 100. There was no fever on the following day; the sweats and diarrhœa ceased, and the appetite returned. Milk diet was ordered, under which the patient soon began to gain flesh. Gradually the bands penetrated the soft tissues, and at the same time lost their parallelism. The circumference of the arm where the bands were applied was eighteen centimetres at the time of operation; four days after it was eleven centimetres; six days after ten and a-half centimetres, and ten centimetres on May 26th. On the evening of May 29th it was found to be nine and one-quarter centimetres, and on June 3d it was reduced to eight centimetres. On June 18th the arm and bands fell off spontaneously, the process having lasted forty days. The stump in its upper portion had cicatrized. The remaining portion was dressed with dry lint. The further course of the case was favorable. The author draws the following conclusions: 1. The compression exercised intercepts all communication between the limb and the rest of the body; the morbid material from the seat of disease cannot, therefore, enter the circulation; furthermore, drainage from the morbid *foyer* ceases. 2. There is no loss of blood. 3. Cicatrization takes place slowly, and the patient bears it easily. 4. The patient's forces are economized. The author does not hesitate to employ this method in all those cases where the general condition of the patient offers no prospect of success to the performance of a bloody operation. E. F.

Torsion.—M. Tillaux, who has used torsion exclusively in all operations since 1871, has recently read before the Société de Chirurgie the conclusion he has formed in regard to this method. He considers that torsion is applicable to arteries of all sizes; only one pair of forceps is needed; the artery must be seized obliquely, and not parallel to the course of the vessel; torsion can be employed upon atheromatous and inflamed arteries; it stops primary hæmorrhage as well as the ligature, and checks secondary hæmorrhage better than the ligature. In this latter statement Mr. Hill, of London, agrees with M. Tillaux. The latter is led to believe that only one pair of forceps is needed, as he has found that the artery is never twisted above two centimetres from the point seized. Forceps like the ordinary ones are all that is needed. The artery should be separated from the surrounding tissue, seized, and twisted until the part seized comes off.—*Gaz. Hebdom.*, April 17, 1876.

Osteotomy.—M. J. Guérin claims as the originator of this operation M. J. Boeckel, of Strasburg, who, in 1843, published an account of 360 cases of rachitic deformity of which many were corrected by osteotomy. M. Guérin insists on the importance of distinguishing between "osteoclasy" and "osteotomy" applicable each to different periods of the rachitic disease, a point usually overlooked by surgeons. The former is indicated at that stage when the bone is replaced by a new tissue, still elastic, and almost without calcareous matter. The bone can be broken easily, or rather the new tissue is bent into place, the shell of bone breaking.

Osteotomy is applicable only at the period just preceding the eburnation of the bone. At this time there exists at the angle of curve a fibrous tissue in the centre of which are lamellæ of the old bone. The tissue is too firm to yield to efforts of replacement. Osteotomy removes a portion of this tissue in the concavity of the angle, and leaves the half corresponding to the convexity intact. M. Guérin sums up the differences between his mode of operating and that of other surgeons. Others employ osteotomy at all stages of rachitis, but especially at the stage of eburnation of bone. M. Guérin never uses it at this stage. He always operates on the concavity, and thus lengthens the bone: if a piece is cut from the convexity the bone is shortened. He never uses the gouge and mallet, but always subcutaneous section. He considers that it is essential to perform myotomy or tenotomy of the muscles and tendons producing the curvature. —*Gaz. Hebd.*, April 7, 1876.

Hair-Pin in the Bladder; Removal.—M. Panas reports the following novel method of extraction of a hair-pin from the bladder of a girl: After trying the lithotrite unsuccessfully, the hair-pin was seized by a pair of ordinary dressing-forceps introduced through the urethra. The finger was passed into the vagina and an attempt made to guide the hair-pin. During this attempt one of the points of the hair-pin passed through the vesico-vaginal wall. It was then seized with a pair of forceps and the pin slowly pulled through. M. Panas considers that there is no danger of causing a fistula by this method, and advises, if necessary, pressing both points of the pin through, and the whole up to the neck; if then straightened it can easily be extracted.—*France Médicale*, February 26, 1876.

Cotton Sponges in Surgical Dressings.—M. Guyon recommends prepared cotton in place of sponges and charpie. Strips of cotton soaked for a few minutes in water and carbolic acid, squeezed and rolled into a ball, can be made to answer the uses of sponges for wiping away pus and blood.[1] These rolls cost but little, and can be thrown away after being used once, thus avoiding the possibility of infection. Cotton is very useful as a dressing where glycerine is applied, as it prevents the rapid drying which otherwise takes place.—*Gaz. Hebd.*, March 3, 1876. E. H. B.

Thyro-hyoidean Cysts.—Concerning the exact anatomical seat and development of thyro-hyoidean cysts, it may be said that only three varieties exist, according to Dr. Victor Affre (*Thèse de Paris*, 1875):

1. Those which develop in a preëxisting serous sac (Malgaigne's serous sac). This sac is situated between the anterior face of the thyro-hyoidean membrane and the body of the hyoid bone. Sometimes it extends on each side beneath the thyro-hyoidean muscles; frequently, according to Prof. Verneuil, it is divided into two portions by a vertical partition.
2. Those which have a glandular origin and are situated in the glandulæ of the glosso-epiglottic *cul-de-sac*, according to the opinion expressed by Nélaton.
3. Those which depend on a non-preëxistent cavity, or on an arrest of development at the level of the bronchial clefts (cysts of ciliated prismatic epithelium).

These cysts are median tumors, fluctuating, transparent, and adherent to the deep parts, with which they are connected by a pedicle, and are rendered immovable by the contraction of the adjacent muscles.

Movable with the larynx, they may (in certain cases) project at the base of the tongue and form a prominence in the back of the throat, easy to feel with the finger and capable of provoking serious accidents.

With regard to the treatment, the author thinks expectation should be preferred whenever the functions of respiration or of deglutition are not impeded, or the cyst is not too voluminous. Whatever method of treatment is at first employed, it always becomes necessary, at last, to resort to complete extirpation, which can alone insure success.—*Bull. Gén. de Thérap.*, February 29, 1876. G. R. C.

Removal of a Polypoid Myoma from the Bladder. Volkmann, *Archiv. für Klin. Chir.*, xix., 4, 1876.—The patient, a healthy man, was first seen November 26, 1874. For six months previously he had suffered from vesical tenesmus, strangury and sharp pains in glans penis during urination. The urine at first was clear and without sediment, but during the summer blood was passed, at times diffused throughout the urine, and again in clots so large as to be expelled with difficulty. In August a number of fleshy masses were passed, followed by bloody urine, and the symptoms were less severe. Within a month the patient's condition has grown worse. The urine contains more blood, and is voided with the greatest difficulty. At times, however, it flows easily, especially when the patient lies on the left side. Fleshy masses are repeatedly expelled, one of which (preserved by patient in alcohol) was of the size of the little finger, of pale-yellow color, and of the consistence of macerated tendinous tissue. When seen, November 26, 1874, patient appears in moderately good health, yet looks anæmic and bloated, and says that he has lost flesh rapidly. On catheterism two hundred grammes of bloody urine are withdrawn, which contained neither mucous nor pus corpuscles. Nothing abnormal in bladder or prostate is felt, but on withdrawing the instrument a mass of fibrous tissue is found in its eye. Rectal exploration revealed nothing abnormal. By means of bimanual examination a hard, elastic, and easily-movable tumor is felt in the upper part of the bladder. It seems to be pediculated, of about the size of a hen's egg, and to be attached to the upper and anterior wall of bladder. On account of its smoothness and consistence it is considered a myoma, a diagnosis which is confirmed by microscopical examination of the portions expelled.

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[1] This method has been used for some time at Billroth's clinic.

Operation on November 30th.—The membranous urethra was opened by an incision in the raphe of the perineum and the finger passed into the bladder, while an assistant depressed firmly the hypogastrium. The tumor was easily reached, its lower three-fourths circumscribed. It was deeply notched posteriorly and inferiorly, of the consistence of a uterine polypus, and evidently attached by a pedicle to the vertex of the bladder. Epicystotomy was now done, the bladder being opened by an incision one and a quarter to one and a half inch long, made on the finger passed thrcugh the perineal wound. Peritonæum not visible. The tumor appeared at once, its surface covered with dilated veins, and on scratching through the pedicle, which was of the size of the little finger and attached to the vertex a little to the left and anteriorly, the growth was removed by traction with forceps, assisted by pressure from the rectum. It measured 8.25 centimetres in its long, 6.5 in its transverse axis, 21.5 centimetres in longitudinal, and 17.75 in its transverse circumference (about the size of a lemon). The wounds in the bladder and abdominal walls, after washing with acid. carbol. were closed by sutures; the whole abdomen was enveloped in carbolic gauze, and a drainage-tube placed in the perineal wound. Patient in good condition. Temperature, 38.6°.

December 1st, A. M.—Temperature, 38.7°. Abdomen tender. Bloody urine through drainage-tube. P. M.—Temperature, 39.0°.

2d, A. M.—Temperature, 38.5°. Urine flows; but few drops have escaped through pin-hole opening which has appeared in the otherwise healthy abdominal wound. Symptoms of peritonitis. P. M.—Temperature, 37.5°.

3d. Abdominal tympanites, collapse, death.

Autopsy.—About thirty grammes of odorless fluid in pelvic cavity. The peritoneal coat of bladder not injured, but the peritonæum lining the lower part of the anterior abdominal wall and the contiguous intestinal folds covered with recent exudations. Diffused purulent infiltration of subserous cellular tissue of abdominal wall. Muscular coat of bladder moderately hypertrophied, the mucous membrane swollen, and showing a number of old and recent ecchymoses, but otherwise healthy. At the situation of the pedicle, which is four lines long, the muscular coat is exposed. On the posterior wall, three fingers' breadth below pedicle, in the median line, a tumor half the size of a cherry, which is found to be a recent extravasation of blood beneath mucous membrane. A second smaller and older extravasation an inch lower down. No signs of inflammation about the incisions. That in the anterior wall of bladder is one inch above the prostate. The tumor is divided into two portions by the deep notch, the connecting band of tissue being thin, non-vascular, and cicatricial in character. The larger portion contains the pedicle, is vascular, and has a normal mucous membrane. The smaller portion has been disturbed in its nutrition, gangrene of its surface has begun, and necrosed fragments are easily detached. From this or the surface of the tumor at the bottom of the notch, where the tissue was cicatricial, came the masses which were expelled during life. Microscopical examination shows it to be a pure myoma

Volkmann comments on the advantage of the bimanual method of exploring the bladder, which enables one to palpate its entire surface, even in adults, and to detect small calculi. The surgeon introduces two fingers (one in children) as far as possible into the rectum, while an assistant places both hands flat on the hypogastrium, and presses downward and backward with the ball of the hand. In moderately fat patients, with the bladder empty or containing little urine, even the summit will be thus brought within reach of the fingers in the rectum. The surgeon may push one hand under the hands of the assistant, and so grasp any new growth between his fingers. Chloroform is desirable.

Volkmann believes that the two blood-extravasations which were found on the posterior wall of the bladder were caused by the rectal examination.

All myomata of the bladder hitherto described have sprung from the prostate. The possibility of this tumor having such an origin by a long pedicle, and the ease with which it could be removed piecemeal by perineal incision, induced Volkmann to do this operation first rather than epicystotomy, which seemed indicated by the size of the tumor, but which was much more dangerous. If compelled to perform the supra-pubic operation, the perineal wound would not diminish the patient's chances of recovery, but rather increase them by affording free drainage to the urine.

It is remarkable that this tumor gave rise only to hæmorrhage and signs of mechanical hinderance to urination, and to no inflammatory action in the vesical mucous membrane.

Volkmann believes that the carbolic gauze was useless, since the drainage-tube in the perineal wound allowed the entrance of septic matters. Drainage would have been better effected by passing the tube through both the supra-pubic and perineal incisions; and, if seconded by hourly washings with salicylic acid, the inflammation of the perivesical cellular tissue, which set up the fatal peritonitis, might have been prevented. This plan was successful in a case of complete separation of the urethra of the bladder.

A similar case to the above has since been reported by Gussenbauer from Billroth's clinic in the *Archiv. für klin. Chir.*, vol. xviii., p. 411.

W. T. B.

Villous Tumor of the Bladder removed by Median Perineal Incision and the Use of the Sharp Spoon; Recovery.—Kocher (*Centralb. für Chir.*, 1876, 13) reports the case of a patient who had suffered for six months from vesical tenesmus and burning during urination, whose urine was of "intolerable" odor, and contained blood and pus. The sound brought out a piece of tissue, which the microscope proved to be of papillary growth, vascular, and covered with a thick epithelial layer.

The incision was T-shaped (the vertical portion being short, and in the median line); in order to avoid more easily the bulb, the membranous urethra opened on a grooved sound. The finger passed into the bladder felt the spongy growth on the posterior wall, and with a sharp spoon bent at an angle it was forcibly scratched out. The bleeding was stopped by cold injections. In six weeks the wound was healed. The after-treatment consisted in injections of nitrate of silver, to overcome vesical catarrh. Fifteen months later the patient was in good health. In the first two months he had two attacks of epididymitis. W. T. B.

Anæsthesia by Intravenous Injection of Chloral.—Deneffe and Van Wetter have brought together into a volume several papers read, at various times, before the Belgian Academy of Medicine, embracing a tolerably full account of thirty-four cases in which operations were performed during anæsthesia produced in this way, of which twenty-six are original. The method is that recommended by M. Oré, of Bordeaux. (Having been already described in this journal, March, 1875, page 306, it need not be repeated.) The advantages claimed are: 1. Absence of any preliminary stage of excitement; 2. Absence of nausea and vomiting; 3. Accurate graduation of the dose administered; 4. Absolute character of the anæsthesia and muscular relaxation produced; 5. Prolonged blunting of the patient's sensibility, which protects him from the influence of shock.

The disadvantages may be classified under two heads: hypothetical and observed. Among the former the authors place the risk of thrombosis, embolism, and phlebitis; difficulty of producing insensibility, and danger of prolonged stupor. Among the latter they enumerate transient dyspnœa, occasional irregularity of the heart's action, presence of a small quantity of blood and albumen in the first urine passed after the injection (in two cases out of twenty-six), and, finally, the risk of fatal syncope.

Two of their patients died. In the first the fatal result could be attributed to nothing but cardiac paralysis. In the other case, an ovarian tumor having been removed, the patient died an hour and a quarter after the completion of the injection. Much blood having been lost, the authors are inclined to ascribe the fatal issue to exhaustion from hæmorrhage.

Notwithstanding these accidents, the authors look forward enthusiastically to a time when the injection of chloral-hydrate into the veins shall have supplanted the various methods of inducing anæsthesia which now divide the suffrages of the profession.—*London Medical Record*, June 15, 1876.

S. B. W.

Tetanus successfully treated with Opium and Chloral in Combination.—Dr. John Imray, of Dominica, W. I., states, in the *Medical Times and Gazette* of May 27th, that no disease, except hydrophobia, being so uniformly fatal in the tropics as the one under consideration, physicians in that latitude are anxious to try every remedy recommended. Having seen three cases in succession recover in the Roseau Infirmary, he gives publicity to the notes. Neither opium nor chloral, administered alone, seemed to check the onward course of the disease; but given together the effect was markedly good. The doses were from ten to forty drops of tincture of opium with from fifteen to forty grains of chloral, a new dose to be given whenever the effect of the previous one is manifestly wearing off. If there is any difficulty about the administration by the mouth, rectal injections were found to answer equally well. S. B. W.

Chloride of Iron in Dacryocystitis.—This very obstinate affection of the lachrymal passage often proves quite rebellious to every form of treatment. Dr. G. Stampinati (*Mov. Med. Chir.*, March, 1876) refers to a number of cases where treatment had been unsuccessful, but which were rapidly cured by the following method: A thirty-per-cent. solution of persulphate of iron was diluted with two parts of water, and this fluid injected by means of an Anell's syringe into the sac. After remaining a few minutes, the fluid was aspirated with the same syringe. The injection may be made every day, and after repeating it about twenty times, a permanent cure is obtained.—*Gazz. Med. Ital. Lombardia*, April, 1876.

G. R. C.

Local Subcutaneous Injection of Carbolic Acid in Polyarthritic Rheumatism.—Such injections have been recommended by Kunze. A solution of 1:100 should first be used, which can be increased to three per cent. The solution employed by the author is one of two per cent. The effect is only one of local anæsthesia, which lasts five to six hours. These injections are also efficacious in neuralgia and sciatica; in lumbago they are more beneficial than in neuralgia.—*Lyon. Méd.*, 20, '76. E. F.

PATHOLOGY.

Contribution to the Pathology of Hemiplegia.—In the *Berl. klin. Wchschrft.*, No. 31, 76, Dr. Jastrovitz states that by pressing on the internal saphenous nerve, five finger-breadths above the internal condyle of the femur, between the sartorious and vastus internus muscles in a hemiplegic subject, the testicle on the non-paralyzed side will be seen to retract, while on the paralyzed side this will not occur. In the male, the author thinks, this is a sign of great diagnostic value to determine the seat of paralysis in a comatose patient. E. F.

Anal Malformations.—Delen (*Gaz. Hebdomad.*) reports a case of double anus in a well-nourished child four and a half years old. A bridge of skin with the perineal raphé five millimetres in length divided a perforate anus; this bridge was continuous inwardly as a mucous membrane septum. The author removed the skin and septum by means of scissors. Ranvier on examining the latter found it contained muscular fibres, evidently belonging to the external sphincter. In the second case (two days old), the blind end of the rectum could be seen arching forward only when the child cried; the end therefore presumably was situated high up. Delens, in order the better to reach the ampulla of the intestine, removed the os coccyx and then united the intestine to the skin by means of sutures. The subsequent feature of the case, however, is a prolapsus recti about the size of a walnut, composed of all the intestinal tunics. This prolapse may be ascribed to the excision of the coccyx, the posterior muscular fibres being deprived of their attachment. E. F.

Extirpation of Parotid Gland.—The patient, aged fifty-eight years, during the course of March, 1874, began to feel lancinating pains in the interior of the left ear, which gradually radiated to the left half of the head. Prof. Corradi diagnosticated a tumor of the parotid compressing the facial. The temperature and sensibility of the affected side was normal, the left palpebral orifice was a little larger than the right, the left labial commissure was inclined to the median line. Deglutition normal. No swelling in the mouth or pharynx. Removal was performed with the galvano-cautery, December 11, 1874, the patient refusing anæsthesia. The lower jaw was maintained as far forward as possible and a vertical incision was made extending from the zygomatic arch to one centimetre in front of the tragus, and down to one centimetre below the angle of the jaw; a second incision was made horizontally from the inferior angle of the masseter to the mastoid process. The two flaps were dissected up by the galvano-caustic knife and the gland detached, commencing at its inferior portion. When the styloid process was reached the patient remarked that he could not close his left eye. The external carotid after ligation was divided. The operation lasted thirty-five minutes. By the end of December cicatrization was complete.—*Bull. delle Sc. Med. di Bologn.*, *Gaz. Med.*, 12, 1876. E. F.

On Lymphorrhagia Consecutive to Suppurative Adenitis.—The following is a summary of a paper read by Dr. Deprès, as above entitled, before the Paris Academy, March 14, 1876: The cicatrization of the incision after opening of suppurative glands is usually retarded for the following twenty days by an effusion of lymph. This effusion may be so abundant as to constitute a lymphorrhagia. When occurring after suppurative adenitis it is more abundant than after suppurative lymphangitis. In healthy as well as in scrofulous subjects it is the real cause of fistulæ. Compression continued for several days, or cauterization when the former cannot be employed, is the best means to prevent the formation of fistulous tracts.—*Gaz. Méd.*, 12, 1876.

E. F.

Danger from Chloroform Anæsthesia in Anal Fissure.—In the *Gaz. Méd.*, March 18, 1876, Dr. Nicaise calls attention to the fact that the great excitation of the nervous system which accompanies the so-called intolerant fissures of the anus is liable to influence the impressibility of the patient to the action of chloroform. He observed that some of these patients, of which he relates three cases, succumbed very rapidly to the anæsthetic influence, and that but a small quantity was required to produce this effect. There was no stage of excitement, the patient immediately relapsing into a profound coma, the respirations ceasing and the pulse becoming very feeble, and resuscitation being very difficult. This slow form of death from chloroform differs entirely from the more common form where life ceases suddenly. M. Perrin has distinguished these two forms, naming the first the adynamic, and the second the convulsive form. M. Guyon in a recent paper refers to the same danger. No deaths occurred in his cases, but the symptoms were so alarming that he discarded chloroform and instead makes use of instantaneous dilatation. The suffering is extreme but very short, and it is not necessary to resort to anæsthesia. Its disadvantages, however, are that extensive lacerations of the anal integument cannot always be avoided, while in Maisonneuve's method the tissues are made to yield gradually. Dr. Chapelle, of Angoulême (Rev. de Thér.), recommends a method of treating anal fissure with which he has been successful in fourteen cases. It consists in making an application to the ulcer, by means of a brush, of the following mixture in intervals of several days: Chloroform 5 ggrm., alcohol 25 ggrm. The pain produced is very intense, but does not last long, and from one to four applications are said to accomplish a cure.

Painless Opening of Abscesses.—Dr. Bergonzini (*Gaz. Méd. de Strasbourg*) says he has succeeded in accomplishing this by leaving a solution of two parts carbolic acid with one part of glycerine in contact with the skin from three to five minutes. Redness and tumefaction result only when the skin is inflamed before the application, or when the liquid is left in contact with the skin longer than is prescribed.—*Lyon Méd.*, 13, 1876.

E. F.

Pathology of Infantile Spinal Paralysis.—After an historical review of the observations on infantile spinal paralysis (*paralysie atrophique de l'enfance* of Duchenne) occurring in literature, Dr. C. Lange concludes that the anatomical appearances in the spinal cord, in this disease, do not present any specific character, since, thus far, there has only been found a general interstitial myelitis with the atrophic condition of the nervous elements generally following. The assumption of a primary atrophy of the cells of the anterior cornua is, according to the author, without any foundation whatever. Along with this, attention is called to the fact that those cases of myelitis which are the basis of this disease are undoubtedly connected with a special pathogenesis. The very similar clinical picture, the fact that myelitis never attacks the posterior columns, and, finally, that it occurs at a circumscribed period of life, favors this theory. The author considers the morbid process as an acutely arisen hyperæmia of the spinal cord and its membranes, of various extent, which, as a rule, soon disappears, and where it has been most intense (in the most anterior portions of the cord) leaves behind various results: interstitial exudation products, connective-tissue hypertrophies and, following these, atrophy of the anterior roots and cells in the anterior cornua. The reason the disease commences within a narrowly limited period of life—it shows itself in in fants between two months and seven years of age—the author presumes to be because the central nervous system is peculiarly exposed at this age to relatively considerable exertions, to rendering forced services by the implicated portion of the spinal cord, inasmuch as the child is then beginning to practise all kinds of voluntary movements, and especially walking. —*Hospitals-tidende*, 2 R. I., No. 26, and *Nordiskt. Med. Arkiv.*, 7 Band, 1 Häftet. G. R. C.

Case of Unilateral Transpiration. Contribution to the pathology of the great sympathetic by Prof. Ebstein (Göttingen).—Cases of unilateral transpiration are met with quite frequently associated with other symptoms, such as diabetes mellitus, exophthalmic goitre, etc. It has been observed in individuals of apparently good health. Pathologists have as yet not been preoccupied in seeking for the anatomo-pathological cause of this symptom, but experimental physiology seems to point to a lesion of the great sympathetic. The experiments of Cl. Bernard in the horse have shown that division of the great sympathetic of one side gives rise to transpiration in the corresponding half of the body. Prof. Ebstein's case was that of a man sixty years of age suffering from angina pectoris, in whom the attacks at certain times were accompanied by transpiration of the left side of the head and neck, and left upper extremity. There was no redness of these parts, nor dilatation of the pupil of the same side. During the intervals between the attacks of angina pectoris, the transpiration took place whenever the patient became fatigued from muscular exercise. At the autopsy of this patient the cervical ganglions were examined with care and presented nothing abnormal to the naked eye. However, on hardening small sections of the left ganglions in Müller's fluid and absolute alcohol, round, dark-brown points could be distinguished, which under the microscope were recognized as vacuoles. These were lined by an endothelium and contained blood-globules. Their form was usually round, seldom irregular, stellate. Their continuity with dilated vessels could often be established, of which they constituted diverticula alternating with strictured points. The walls of these vacuoles were thickened, and contained, especially at their periphery, a large number of stellate nuclei. These ganglion-cells, which appeared empty, were markedly pigmented. Nothing was found in the ganglions of the right side. Prof. Ebstein is disposed to trace these alterations to the vascular apparatus of the great sympathetic. —*Virchow's Archiv.* E. F.

Pathological Anatomy of the Great Sympathetic. By Dr. Foa (*L'Imparziale*, and *Gazette Médicale*, 12, 1875).—The author has studied the sympathetic ganglions, and especially the semi-lunar and cervical ganglions, in one hundred and forty subjects who had died from various maladies. The ganglions were examined firstly from an anatomo-pathological point of view, and secondly in their connection with morbid conditions of the entire organism. The following alterations were found: 1. Simple atrophy from compression or marasmus. This form is found in cases of tuberculosis, cancer, etc.; the neighboring lymphatics being indurated, compress and destroy the ganglion. 2. Atrophy with fibrous transformation—found in some cases of chronic intestinal tuberculosis, chiefly in wasted, decrepit individuals. 3. Hyperæmia. 4. Infiltration of white globules, either moderate or abundant. In the former case the microscope is necessary; in the latter the ganglion is very soft, and may be in a pulpy condition. 5. Pigmentary infiltration and pigmento-fatty degeneration. Pigment-granules, quite large in size, of a yellow or yellowish-brown color, sometimes very small, and of a deep black color, are arranged around the nucleolus and the nerve-cell, or are arranged in the form of small colored heaps, which cover the whole surface of the nerve-cell and conceal various portions. Sometimes a large quantity of pigment is combined with a fat-globule. Such conditions are constantly found in old subjects and pellagra. Abundant pigmentation, as a rule, is not found in the ganglions of adults, but shows itself in cases where there is retardation of the circulation (diffuse tuberculosis, pneumonia, etc.), and more or less considerable congestion of the ganglion. Then, usually, there is pigmentation of the nerve-cell. 6. Fatty degeneration. Fat-cells are often found in the nerve-cells. 7. Amyloid degeneration: found in the arterioles of the ganglion. It was met with three times in tuberculous and syphilitic subjects. 8. Inferior organisms in the blood-vessels in cases of septicæmia.

Alterations of ganglions in connection with morbid conditions of the entire organism. In chronic pulmonary tuberculosis the ganglions, as a rule, experience the effects of retarded circulation, and their vessels are found dilated and congested; then, there is also slight hyperplasia of the white globules. In acute tuberculosis the ganglion presents a strong infiltration of white globules. In pneumonia the ganglions are congested, sometimes presenting nothing special. The condition varies according to age: fibrous and pigmented in old people, normal in young. If there is malaria with pneumonia, marked congestion is combined with considerable hypertrophy of the connective elements, and there is strong pigmentation of the nerve-cells, with a certain quantity of fat-globules. In cirrhosis of the liver congestion is found, with or without a varicose condition of the veins, with or without hyperplasia of the connective elements. There are some white globules and fat-globules: the nerve-cells are pigmented. In chronic alcoholism, advanced degeneration of the nerve-cells is found. In cases of abdominal or thoracic tumors, when the enlarged lymphatic glands around the ganglion had not compressed the ganglion, the number of white globules was increased. In syphilis the homogeneous appearance of the nerve-cells appeared due to colloid degeneration. In acute intestinal diseases there were increase and hyperplasia of the white globules in the ganglion. In a case of subacute gastritis there was an abundant infiltration of the white globules, with fat-globules in the ganglions. In Bright's disease with anasarca, the semi-lunar ganglions were strongly congested, and the interstitial connective tissue was hypertrophied. In pellagra, dilatation and congestion of the vessels was found constantly; there was strong pigmentation of nerve-cells, and some fat-globules, and very marked hyperplasia of interstitial connective tissue. In infectious diseases there are two distinct varieties of alterations of the sympathetic ganglions. The stroma presents an abundant infiltration of white globules, and in certain cases an hypertrophy of the connective elements. The nerve-cells appeared with a homogeneous and refracting protoplasma, or strewed with fat-globules, sometimes mixed with pigment-granules.

E. F.

Size of the Red Corpuscles of the Blood.—According to M. Hayem, the red globules vary in size, form, and color. Normal blood contains corpuscles varying in all these particulars. The largest have a mean diameter of 8 μ. 5, some are even 9 μ.; the diameter of the moderate sized corpuscles is 7 μ. 5, and that of the smallest 6 μ. 5 to 6 μ. Out of one hundred globules seventy five are usually of moderate size, twelve are large, and twelve small. The average diameter is 7 μ. 5.

In anæmia (except the acute anæmia resulting from hæmorrhage), the corpuscles are found of diminished average diameter. There is almost always present a large number of corpuscles smaller than the smallest found in normal blood. The diameter of these varies from 2 μ. to 2 μ. 6; these very small corpuscles are not found, however, in great numbers, though many are found measuring 3 μ. 3, 3 μ. 8, 4 μ. 5. Those most frequently found are those measuring from 4 μ. 5 to 6 μ.

Larger corpuscles are also found in anæmic blood, "giant corpuscles," as M. Hayem terms them. They measure 10 to 12 μ., and sometimes 14 μ. Their shape is discoid, but they are less flattened in the centre, and less thick than the normal red corpuscle. In general the corpuscles in anæmic blood are thinner than normal. The giant globules are never found in great numbers—½ to 4 in 100. The diminution in the average volume of the corpuscles in anæmics necessarily gives a diminution in the mass of collected globules. If the average diameter is as low as 7 μ., 100 globules correspond to 80 normal; if the diameter is 6 μ., 100 globules are equivalent only to 65 normal.

There is a slight change in form, particularly in the smallest corpuscles, in anæmic blood. These changes indicate apparently a lack of consistency.

The globules in anæmia are frequently paler than normal. This diminution of color rarely affects all the corpuscles. Those presenting anomalies of form and size are most constantly affected. The change is very marked, and rarely wanting in the giant corpuscles.

The observations were made in cases of anæmia from different causes (chlorosis, malarial cachexy, saturnine anæmia, vitium cordis, cancerous cachexy, tuberculosis), but no alterations were found peculiar to any particular form of the diseased condition.—*Gaz. Hebdom.*, July 14, '76. E. H. B.

Large Fæcal Concretion causing Death.—Dr. Bauer relates, in the *Jahrbuch für Kinderheilkunde*, the case of a boy eight years old, who came under his observation on May 26th. His digestion had always been weak, but he had had no severe illness. His bowels were said not to have been properly opened since the preceding February, the administration of purgatives and clysters having produced only small evacuations accompanied with much tenesmus. The succeeding day, complaining of abdominal pain and fruitless straining, he received two spoonfuls of castor-oil, the administration of which brought on excessive distress and dyspnœa ending in fatal collapse. The autopsy showed a hard, round, fæcal mass, of the size of the fist, situated immediately above the sphincter, so as to form a valve, which must have closed with each attempt at defecation. No nucleus could be detected. The whole large intestine was greatly distended, the rectum measuring six and a half inches in diameter. There was recent peritonitis of the parietal layer and of the posterior surface of the large intestine. The small intestine and stomach were healthy. The diaphragm reached as high, on both sides, as the second intercostal spaces. The lungs were much compressed. The left ventricle of the heart was strongly contracted; the valves and great vessels were healthy.—*London Medical Record*, June 15, 1876. S. B. W.

Absorption of Iodine by the Skin.—M. Jules Simon reports a number of cases of the absorption of iodine followed by albuminuria in children.

Applications of equal parts of glycerine and tincture of iodine were made each day in the treatment of a number of cases of favus. The results obtained were quite satisfactory, until manifestations of iodism were noticed in a child of ten years (papular eruption, congestion of the nostrils, epistaxis, thirst). Albumen was found in urine, and iodine. An examination of the urine of all the cases treated by the external application of iodine proved that there was albuminuria in more than half the cases. The albumen disappeared when the iodine application was stopped, but returned when the medicament was again used. In two cases of phthisis, and in one of white swelling of the knee, albumen was found in urine soon after tincture of iodine had been locally applied. Further observations proved that painting over a limited area caused no albuminuria; if, however, more than ten centimetres square was covered, albuminuria resulted in many cases.—*Gaz. Hebdom.*, May 12, 1876. E. H. B.

Muscarine.—The recent investigations in regard to the active principle of the poisonous mushroom (amanita muscarin—Fly mushroom) have given some interesting results. The poisonous effect of this fungus has been for a long time known. Since the discovery of the alcaloid by Schmiedeberg, several careful observations have been made in regard to the physical action of this new agent in many of the laboratories of the continent. The most noticeable action of the drug on the lower animals, in poisonous doses, is the paralysis of the heart induced by it. A solution placed on the heart of a frog arrests contractions. In mammiferæ the action is less pronounced; a small dose subcutaneously increases the number of contractions of the heart in man and several animals; but, if the dose is larger, feebleness soon follows, and finally complete arrest. In toxic dose the drug produces death by its peculiar effect on the heart. If the dose is small, after an arrest for some little time, the heart in frogs will begin its action again. In animals this may be brought about by subcutaneous injections of sulphate of atropia, digitaline, and other substances, the most active being the sulphate of atropia, which seemed in these experiments even more efficacious than electricity.—*Gaz. Hebdom.*, April 28, 1876.

E. H. B.

Pregnancy and Phthisis.—M. Ortéga has just published a series of clinical observations on the effect of pregnancy, confinement, and lactation on phthisis. He concludes as follows: If phthisis has been developed before pregnancy, its course does not generally seem to be checked or hastened by the process of gestation; after the delivery, however, rapid progress of the disease is often seen. The proportion of miscarriages and premature births is slightly greater in tuberculous women than in healthy women; but in by far the greater number of cases the children are born at full term. If phthisis first appears during pregnancy, its course is usually rapid, and the women usually die soon after delivery. Miscarriages are frequent, and there are many still-births. The children in general born of tuberculous women are usually feeble: at least one half in the cases observed died a few days after birth.

(De l'Influence de la Grossesse, l'Accouchement, et l'Allaitement sur la Phthisis Pulmonaire. Ortéga, published by G. Masson.) G. R. C.

Inoculation of Varicella.—Steiner, starting out from the specific nature of varicella, and in order to confirm the opinion recently placed in doubt of the inoculability of this disease, has made new experiments in inoculation, observing the greatest precautions. These experiments (*Il Medico di Casa*, May, 1876) gave positive results. Varicella vesicles were always produced, and never those of variola; the duration of the incubation was eight days. In half the cases there was a prodromal period of four days, with augmentation of the pulse and temperature, distinct exacerbations in the evening, and remissions in the morning, inquiet sleep, lassitude, great anorexia, increase of the mucus of the mouth and pharynx. The greatest elevation of temperature coincided with the eruption; vaccination had no influence on the form of the exanthema; the varicella had no protective influence against variola.—*Gazz. Med. Ital. Venete*, May, 1876).

G. R. C.

Contagiousness of Tuberculosis.—As a contribution to the question, Is tuberculosis contagious? Dr. Pietri di Ozieri reports (*La Spallanzani*, January and February, 1876) that, having administered tuberculous substance taken from a cow to three animals (two cats and a dog), he found at the autopsy that in one of the cats miliary tuberculous nodules had formed in the right lung, and that the mesenteric glands were enlarged and of a sarcomatous consistence, presenting the appearance of tubercles on section. In the dog all the organs were healthy.—*La Sperimentale*, February, 1876.

G. R. C.

THEORY AND PRACTICE.

Fermentation of Urine.—The Academy of Medicine more than two years ago devoted considerable attention to the important subject of the fermentation of urine. The matter has been recently again brought before the society, by Messrs. Musculus, Pasteur, and Jonbert. The former gentleman, in January, 1876, presented to the Académie des Sciences, a statement that he had discovered a substance soluble in the urine capable of transforming urea into carbonate of ammonia, and therefore the presence of microscopical germs is not essential to the process.

Messrs. Pasteur and Joubert have devoted their attention to the subject, and give as their conclusion after a series of experiments that, "Whenever the urea or urine becomes ammoniacal, a microscopical organism is invariably present. Normal urine, which does not contain this germ, remains acid indefinitely. The soluble ferment of M. Musculus is a product of an organized ferment, not requiring urea for its maximum development." Messrs. Pasteur and Joubert consider it proved that ammoniacal urine results from an organized ferment, and therefore that physicians should always use means to prevent the introduction of germs of ferments into the bladder when passing bougies or catheters.

Carbolic acid, according to Pasteur, is almost powerless to destroy ferments developed in the urine, and for this reason carbolic acid injections in cystitis have not had the success that was anticipated. Boracic acid M. Pasteur considers more efficacious, and consequently its use has been recently introduced in the Hôpital Necker.—*Gaz. Hebdom.*, July 7, 1876.

E. H. B.

DERMATOLOGY.

The following extracts are taken from Dr. Henry G. Piffard's elementary treatise on "Diseases of the Skin:"

Structure of the Skin.—It is stated by most writers upon the subject that the horny layer of the epidermis is derived from the Malpighian, in other words, that the cells which at one time occupied positions in this latter layer afterward become cells of the stratum corneum, being pushed outward by new cells forming beneath them. *This I believe to be an error. Cells of the rete always remain such, and do not become horny, and the cells of the horny layer never were cells of the rete. Each layer is regenerated independently of the other.* The following are among the reasons which induce me to reject the prevalent notion, that the horny layer of the epidermis is regenerated by the gradual progression outward of the cells of the rete. In the first place, there is no gradual change of character, or blending of the one with the other, but there is always a very evident line of demarkation, rendered, if possible, more distinct by the action of certain reagents and staining solutions. My attention was first particularly attracted to this line of separation about six years ago, in some sections from a leprous stump which had been stained with carmine, and the excess of carmine removed with hydrochloric acid. In these sections, the cells of the rete and of the horny layer were exceedingly distinct, but between the two was a narrow layer which did not retain the carmine, and which was characterized by extreme transparency, with the exception of certain small oval collections of very fine granules, arranged with their long axes in the horizontal plane, suggesting the idea of nuclei of cells, the contours of which, however, were not apparent. This appearance I have met with several times with more or less distinctness, and pointed it out to Prof. F. N. Otis in some sections of prepuce near chancres, which he was good enough to show me in 1872. I find, however, that this transparent line has been previously noticed and its characters described by Oehl, who called it the "stratum lucidum." More recently Langerhaus has studied this stratum with care, and describes it as a narrow layer, generally consisting of two rows of cells, characterized by fine transverse striations.

Histology of Acne Rosacea.—The histological processes in rosacea are probably the same as occur in chronic, congestive, and inflammatory states elsewhere. In the third stage, which alone I have had an opportunity of examining microscopically, I have found great thickening of the corium, with development of new connective tissue, and enlargement of the blood-vessels, principally the veins. The sebaceous glands were, many of them, enlarged, sharing with the other elements of the skin the common hypertrophic tendencies, *vide* Plate III. They did not appear, however, to have undergone any qualitative changes, with the exception that some of them were filled with impacted sebum. Small-cell infiltration occurred to a limited extent along the course of the vessels.

In a specimen from a case of excessive enlargement referred to me by Dr. C. Wagner for microscopical examination, in which the portions removed weighed about four hundred and forty grains, I found the following changes: The stratum corneum was exceedingly scant, consisting at most of but one or two layers, and in some parts entirely absent. The stratum Malpighii was very thick, with mostly large and well-formed cells. In some parts, however, the nuclei were shrunken and deformed, or entirely absent, leaving vacuoles. The papillæ were enlarged in length and breadth, and contained many round and fusiform cells. The sebaceous glands were not much altered, except that the nuclei of the cells were indistinct, and did not imbibe carmine readily. In many cases the nuclei were shriveled or absent. The margins of the cells were irregular. Some of the glands were normal, but the others were undergoing degenerative, not hyperplastic changes. The derma was very greatly thickened, but presented the aspect of an adult tissue, and not one in the course of formation. There were a few round and spindle cells, but immature connective tissue was not seen. The lesion, on the whole, appeared to be a pure hypertrophy of the dermal connective tissue, manifested by an increase in the number, but not in the size, of its elements, with degeneration of the glands, probably from pressure.

Alopecia Areata—its true Nature.—From Gruby to Malassez no two observers agree as to the characters of this cryptogam which they all unite in calling the "Microsporon Audouini." Bazin and Fox lay special stress upon the nodular swellings of the shaft and dissociation of the hairs, features not referred to by Malassez or Gruby, and which I observed in cases VIII. and IX., and then unaccompanied by fungus. In order to detect the fungus, if possible, in the hairs from Case VIII., they were carefully soaked in several changes of ether, and washed with absolute alcohol, in order to remove all grease, dirt, or other foreign matter which might impede a thorough examination. This being done, they were rendered as transparent as possible by glycerine or turpentine and carefully examined. No spores, nor even Fox's "stromal" form, were found, but simply the nodules on the shaft with dissociation of the longitudinal fibres. Subsequent to this examination, Dr. Zinsser informed me that when case VI. was under his care with alopecia he had noticed bulgings on the hair-shafts, and had examined them carefully. He found no fungus, but instead, what appeared to him to be fatty globules infiltrating the shaft. In consequence of this hint received from Dr. Z., I was prepared to examine the hairs from Case IX. with special reference to this point. The broken ends of the hairs were all brush-like; in addition, there were bulgings upon the shafts at points where complete rupture had not as yet occurred. Examined in water, fine globules were in some cases obscurely seen among the fibres at the seat of fracture. Examined in *liq. potassæ*, numerous globules, resembling emulsionized oil, were discoverable about the hair, of which *some were seen to issue from the interior* at the site of the bulging. A solution of osmic acid was added to the water preparations and the globules were blackened. Hairs soaked in a one-per-cent. solution of osmic became intensely blackened at the site of ruptured nodules, and at the fractured ends, while other portions of the shaft were unaffected. No spores were found. These observations leave no doubt in my mind that a localized, fatty degeneration of the hairs is an important element in connection with the pathology of this affection, and previous to the observations of Dr. Zinsser, confirmed by the present ones, entirely overlooked.

In view of the foregoing, I cannot help believing that Gruby's observations did not concern the present affection at all, but related to trichophytosis capitis; that Bazin and Fox mistook fatty matters for spores; that Malassez first discovered that a fungus frequently, if not always, accompanies the affection;[1] and, finally, that the fatty degeneration above noticed introduces a further perplexing element into the study of this obscure affection.

MEDICINE.

Acute Endocarditis in Tuberculosis. — Acute endocarditis has been recognized in most of the virulent and infectious diseases. Dr. Perroud (*Abeille Médicale*, 1875) has also demonstrated its presence in acute miliary tuberculosis. From numerous observations he derives the following conclusions:

1. Acute granular tuberculosis should be ranked among the infectious diseases in the course of which acute endocarditis may become manifest.

2. Ordinarily, this endocarditis does not have time to develop completely, the tuberculosis causing the part to succumb before the valvular lesions have reached a high degree. At the autopsy, often, nothing is found but small nodules, more or less pronounced, described by all, in infectious diseases, and quite different from tubercular granulations, which are extremely rare.

3. When the duration of the tuberculosis is sufficiently prolonged, the endocarditis may acquire a great development, and disturb the play of the valves sufficiently to give rise to physical and functional cardiac signs.

4. Ordinarily, it is the vegetative form of endocarditis which is met with in these cases. The author has never found the so-called ulcerative form present. As to the sclerosis of the valves, so frequent in the adult as a result of acute rheumatism, and the evolution of which is slower, Dr. Perroud has never observed it in granular miliary tuberculosis; and, according to him, it must be very rare. We are at least permitted to expect this from its rapid course, and from the rarity of its cure in acute and confluent cases, or, in other words, in precisely those in which endocarditis is developed by preference.—*La Sperimentale*, February, 1876. G. R. C.

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[1] It does not, however, necessarily follow that Malassez's fungus is the *cause* of the disease.

Pneumonitis Migrans.—Dr. De Rossi has described a singular case of pulmonitis migrans (*Gazz. delle Clin. di Torino*, 1876) which, according to Wiegand, Waldenburg, and Fischl, is the fourth one observed. The patient was a robust countryman, who, after having erysipelas, was attacked by lobular pneumonia of the left lung. When this was nearly well a second pneumonitis became developed in the superior lobe of the right lung. This last affection was pursuing its regular course, when inflammation was again manifested in the inferior lobe of the left lung, that is, in the seat of the primary affection. This migration, therefore, took place three times in the course of a month, the final pneumonitis lasting longer than the others. The patient made a complete recovery.—*La Sperimentale*, March, 1876.

G. R. C.

Muriate of Ammonia in Diphtheria.—Dr. E. Sarzana communicates (*Gazz. Med. di Roma*, March, 1876) the results obtained by him in the treatment of diphtheria with muriate of ammonia. He says that he has used this salt on a large scale in this disease, and he has almost always found it efficacious, and regards it as far superior to the other remedies which have been proposed. He has used it externally in the dose of 1–2 grammes, powdered on the affected parts, and internally in the dose of 2–5 grammes, dissolved in a decoction of cinchona, or in a simple saccharine solution. He states that one or two doses of this salt have caused every trace of the diphtheritic exudation to disappear, and have prevented the appearance of those general disorders which are consecutive to the disease, and that the convalescence has almost always been very rapid.—*Gazz. Med. Ital. Prov. Venete*, April, 1876.

G. R. C.

Chlorate of Potash in Infantile Diarrhœa.—Dr. Moncorvo de Figueiredo, in an article in the *Revista Medica de Rio de Janeiro*, narrates the circumstances which led him to appreciate the efficacy of chlorate of potash in a case of obstinate diarrhœa, lasting eight months, in a child two years of age. A solution of the potash, which had been ordered for some other cases of throat-trouble, was given to this child by mistake. The effect was, however, very beneficial; so much so, that Dr. Moncorvo directed the medicine to be continued, and he soon obtained a complete cure.

Dr. C. Bonfigli, in the Italian journal, *Il Monimento*, also extols the beneficial effects of this salt in cases of diarrhœa, which he calls *vaso paralitica* of cachectic children. He refers to fifteen cases in which the chlorate was used very successfully, in doses varying between two and ten grammes in the twenty-four hours.—*Gazeto Medica da Bahia*, January, 1876.

G. R. C.

Miscellany.

The University of Michigan.—The subjoined statement is respectfully submitted. The Faculty of the Rush Medical College, of Chicago, in session of July 5, 1876, enacted the following resolution:

Resolved, That the time and attendance of students upon lectures of the Medical Department of the University of Michigan, up to and including the last regular session of that

College, may be recognized as part of the requisites for graduation in this College; but such time and attendance shall not hereafter be accepted, so long as the teaching of homœopathy, in whole or in part, shall be included in the course of study in that institution.

The significance of this resolution depends entirely upon the interpretation given to the words "*in that institution.*" If by them is intended the old, regular school, which is clearly and alone referred to in the first clause, then the resolution is of no effect, for the teaching of homœopathy is not now and never has been "in whole or in part" included in the course of study in that institution. If the "Homœopathic Medical College" be referred to, then the Faculty of the Rush College have committed themselves to the inconsistent principle that because homœopathy is taught to the students of one college they will therefore refuse to recognize the students of another college who have no connection or association with the first-named, and whose education is as orthodox and regular as that obtained at any school in the country.

Much of the controversy that has grown out of the introduction of homœopathy into the University of Michigan is, without doubt, due to a simple misunderstanding of the situation. Our university consists of a number of distinct colleges, each created by separate legislative enactment and each having its own faculty and organization. Two of these colleges are medical. One of them—the old, well-known, regular school—is by statute entitled "*The Department of Medicine and Surgery.*" The statutory title of the other is, "*The Homœopathic Medical College,*" created last year. Homœopathy is taught in the last-named college, but in no way directly or indirectly is it included in the curriculum of the first. The peculiar wording of the resolution leads to the suspicion that possibly the authorities of Rush College have been misinformed in the premises, as we know certainly many others have been. At any rate, if the above facts can be kept clearly in mind, they will contribute greatly to the ultimate and we trust amicable solution of the question at issue.

The leading medical colleges at the East who have voted to receive our tickets and recognize our students have drawn the distinction between the two schools of the University of Michigan by stating explicitly that this privilege is not extended to students who receive instruction in "irregular" medicine.

E. S. Dunster, M. D., Acting Dean,
Department of Medicine and Surgery, University, Michigan.

Appointments, Honors, etc.—Dr. Robert F. Weir has been appointed one of the attending surgeons to the New York Hospital, in place of the late Dr. Krackowizer. Dr. John H. Ripley has resigned his position as Clinical Lecturer on Diseases of Children at the Medical Department of the University of New York. Dr. James R. Chadwick has resigned his position as Lecturer on Diseases of Women in Harvard University. Dr. G. B. Balch has been elected Health Officer for the city of Yonkers, N. Y. At the recent meeting of the American Medical Association, a valuable prize was awarded Dr. H. Culbertson, of Zanesville, Professor of Ophthalmology in Columbus Medical College, for an essay on exsection of the four principal joints. Dr. Greensville Dowell, of Galveston, Texas, is contemplating the publication of a work on yellow fever.

Canadian Medical Association.—The ninth annual meeting of this Association was held in Toronto August 2d and 3d, Dr. Hodder presiding. The following officers were elected for the ensuing year: President, Dr. Hingston, Montreal; Vice-President for Ontario, Dr. Workman, Toronto; Vice-President for Quebec, Hon. Dr. Ross, Quebec; Vice-President for New Brunswick, Dr. Baird, St. John; Vice-President for Nova Scotia, Dr. Moran, Halifax; Secretary for Ontario, Dr. Zimmerman, Hamilton; Secretary for Quebec, Dr. Russell, Jr., Quebec; Secretary for New Brunswick, Dr. Herrington, St. John; Secretary for Nova Scotia, Dr. Almon, Halifax; General Secretary, Dr. David, Montreal; General Treasurer, Dr. Robillard, Montreal.

Association of Medical Editors.—The eighth annual meeting of this association was held in Philadelpha, June 5th, the

President, Dr. A. N. Bell, in the Chair. The President's address was devoted chiefly to the subject of medical education and the necessity of raising the standard throughout the country. Drs. H. C. Wood, Byford, Palmer, and Connor, took part in the discussion of the subject, and the following resolution was unanimously adopted:

Resolved, That we express our approval of such medical schools as require preliminary examinations and a three-years graded course of instruction, with stated examinations.

Dr. H. C. Wood was then elected President for the ensuing year; Dr. F. H. Davis, Permanent Secretary.

Rhode Island State Medical Society.—The sixty-fifth annual meeting of this society was held in Providence, June 14th, Dr. George W. Jenckes, President, in the chair. The following officers were elected for the ensuing year: President, Dr. Edwin M. Snow, Providence; First Vice-President, Dr. Charles H. Fisher, North Scituate; Second Vice-President, Dr. Edward T. Caswell, Providence; Recording Secretary, Dr. Walter E. Anthony, Providence; Corresponding Secretary, Dr. Edward M. Harris, Providence; Treasurer, Dr. Timothy Newell, Providence.

International Medical Congress.—We have already published the programme of proceedings of this Association. The meeting will be opened at noon on Monday, September 4th. The sessions of the Congress and of its Sections will be held in the University of Pennsylvania, Locust and Thirty-fourth Streets. The general meetings will be held daily, from 10 to 1 o'clock. The sections will meet at 2 o'clock. Luncheon for members of the Congress will be served daily in the University building from 1 to 2 o'clock.

Lectures by Prof. Huxley.—We take pleasure in announcing that Professor Huxley will deliver three lectures in Chickering Hall, in this city, on "The Direct Evidences of Evolution," on the 18th, 20th, and 22d of September. The number of tickets is necessarily limited, and, as this will be the sole opportunity of hearing Professor Huxley during his brief sojourn in this country, only the early applicants will be likely to enjoy the privilege.

Illinois State Medical Society.—The twenty-sixth annual meeting of this Society was held in Champaign, May 16th, 17th, and 18th. The following officers were elected: President, T. D. Fitch, Chicago. First Vice-President, S. H. Birney, Urbana. Treasurer, J. H. Hollister, Chicago. Permanent Secretary, N. S. Davis, Chicago. The next meeting will be held in Chicago.

Serious Accident to Dr. Arthur Farre.—Dr. Farre had a narrow escape from death, June 13th when he accidentally fell from a window, a distance of forty feet, to the ground. He suffered a severe compound dislocation of the right ankle, and fracture of one of the bones of the leg, but at latest accounts was doing well.

The Cincinnati Clinic.—Prof. J. T. Whittaker has resigned the editorship of the *Clinic*, after having ably and successfully brought that journal to the close of its tenth volume. Drs. Longworth and Hyndman have assumed control as joint editors and will doubtless maintain the excellent reputation the *Clinic* has acquired.

University of Michigan.—The Faculty of the Department of Medicine and Surgery of this University have received official notice from Bellevue Hospital Medical College, the College of Physicians and Surgeons of this city, and the Long Island College Hospital, stating that they will continue to accept their tickets and recognize their graduates as heretofore.

McGill University of Montreal.—During the forty-five years in which this university has been in existence the Medical Faculty has graduated nearly eight hundred men, many of whom have attained eminence in their profession.

On the Etiology of Gravel.—Near the Vosges, in France, is a watering-place, Contrexeville, which has long been celebrated for its alkaline springs. It is much frequented by gouty and rheumatic patients, and has been a fine field for observing the effect of the waters upon these complaints. The inspector, Dr. Debout d'Estrées, has lately read before the Academy of Paris a paper on the "Etiology of Gravel." His investigations have extended over one thousand and twenty-eight cases suffering from uric gravel: eight hundred and twenty-two men, one hundred and ninety-seven women, and thirteen children. In five hundred and eighty-three cases he was able to trace the principal cause of the malady; in the others the causes either were many or could not be ascertained. The principal cause was found to be heredity in one hundred and ninety-one cases, bad digestion in one hundred and sixty cases, overfeeding in one hundred and one, a sedentary life and absence of exercise in ninety-five, and severe mental disturbance in thirty-five. One example only was of a traumatic kind, in a child. The author has found, as to heredity, that the parents of a patient suffering from gravel are much more frequently laboring under gravel than gout, contrary to Sir Henry Thompson's opinion. As for phosphatic gravel, M. Debout divides it into primary phosphatic gravel and secondary or catarrhal. With the first we have phosphate of lime, carbonate of lime, a few lithates, and some alkaline phosphates. With the second we have principally ammoniaco-magnesian phosphates. The author has observed the first kind with anæmic individuals and tubercular patients. Secondary phosphatic gravel may be caused—1. When the urine has been fermenting before it is voided; 2. When alkalies have been too largely taken, or an exclusively vegetable diet has been used. The author has only observed forty-seven cases of oxalic gravel—forty men and seven women; but it should be observed that, in the microscopical examinations undertaken with the urine of patients suffering from lithic gravel, octahedric crystals of oxalic acid were often observed. —*Lancet.*

The Pinel Hospital.—For many years Virginia has felt the need of an establishment wherein the unfortunate victims of alcohol and opium could be reclaimed. So general has this want become that the General Assembly, at its last session, passed a law which authorizes relations and friends to have commissions held over these unfortunate citizens, and to compel them to be sent to the Pinel Hospital to be treated and placed in a position to resume their places as useful members of society.

Every guarantee for the protection of these patients has been extended by this act of the General Assembly of Virginia. The Pinel Hospital is at all times subject to the inspection of the regularly authorized State officials; at the same time every facility is given to the Superintendent to guard the patients from a possibility of continuing their nefarious habits. Every conceivable effort will be made by the officers and directors of this establishment to add to the comfort and happiness of its inmates.

The institution is situated on the western limits of the city of Richmond, thus allowing the patients easy access to the city, and enabling them to enjoy all the public amusements incident to city life; and at the same time, being in the country, the patients can remain secluded from all publicity. Within the grounds, however, they will have ample opportunity for enjoying themselves, as the hospital will have attached to it the necessary means for the health, comfort, and amusement of its inmates.—*Virginia Medical Monthly.*

Treatment of Cystitis by Atropia Enemata.—Dr. G. W. Simple, of Hampton, Va., recommends, in the *Virginia Medical Monthly* for June, the following method of treating cystitis, giving the history of a number of cases in which he has adopted it successfully:

It consists in the administration by enema into the rectum of from minims xl to ʒj of a solution of sulphate of atropia (gr. j to water ℥ viij), to which is added sufficient carbolic acid to prevent the formation of organic matter and the deposit of atropia. The dose is added to ℥ss of water for administration, and given twice in twenty-four hours. It uniformly and immediately arrests the frequent strangury and painful micturition, gradually checks the mucous and sanguineous discharges, and relieves the supra-pubic pain with the cystic inflammation. When the urine is alkaline, Mettauer's nitro-muriatic acid is given to correct it; and, when it is so acid as to irritate, the acidity is corrected by antacid remedies, of which the bicarbonate of potash, with subnitrate of bismuth, is generally preferred, because of the tonic effect of the bismuth and its very soothing effect on the mucous surfaces of the urinary organs. When constipation exists, which is frequent, it is relieved as occasion requires, generally by the German pulveris glycerrhizæ compositus, until the bowels begin to act regularly from the effect of the atropia, which generally soon results.

The American Dermatological Association.—At an informal meeting of the undersigned, held in Philadelphia, at the rooms of the Section of Practical Medicine, of the American Medical Association, Wednesday, June 7, 1876, after the election of a Chairman and Secretary, *pro tem.*, it was

Resolved, To call upon such American physicians as had evinced a special interest in Dermatology to unite in forming an American Dermatological Association.

Resolved, That the meeting for organization be held in the University of Pennsylvania, Philadelphia, on Wednesday, September 6, 1876, at 6 P. M., or immediately after the close of the meeting of the Section of Dermatology and Syphilology, of the International Medical Congress, on that day.

It is sincerely desired that you will be present and aid in the organization. Please signify your pleasure to the Secretary at the earliest opportunity, and oblige, very truly yours,

L. D. Bulkley, Secretary, *pro tem.*, 1 East 33d St., New York; Edward Wigglesworth, Jr., Chairman, Boston, Mass.; Louis A. Duhring, Philadelphia, Penn.; Lunsford P. Yandell, Jr., Louisville, Ky.; George Henry Fox, New York; J. E. Atkinson, Baltimore, Md.

The Late Dr. Woodrnff.—At a special meeting of the Medical Board of Charity Hospital, held July 13, 1876, the following resolutions were adopted:

Whereas, Our colleague, Dr. Lockwood De Forest Woodruff, has been removed from our number, while in the performance of his duty, therefore—

Resolved, That in his death the Hospital has lost the services of one who was earnest in its interests and vigilant in all that pertained to its honor and usefulness.

That his death, contracted in the hospital service, was a sacrifice that this Board honors as typical of the lofty professional spirit which he so eminently embodied.

That we shall miss the companionship, aid, and counsel of one who was thus, in all the qualities of physician, colleague, and friend, preëminent.

That we mourn with his family, while with them we bow to the wisdom of the Providence that has summoned him from our midst.

Le Roy M. Yale, M. D., *President.*
Fred'k R. S. Drake, M. D., *Secretary.*

Deaths from Ether.—Dr. E. L. Holmes, in the *Chicago Medical Journal and Examiner*, May, 1876, reports the case of a man aged seventy-four, who died while under the influence of ether given during an operation for the extraction of a cataract. He had performed a preliminary iridectomy some three months previously, and ether had been given without any very alarming symptoms having been observed. On the final occasion, after about half a pound of ether had been consumed, violent coughing ensued, and was soon followed by an extremely livid appearance of the face, and then by cessation of breathing. Artificial respiration and elevation of the feet of the man soon reëstablished the respiration, the lividity disappeared, and the operation was proceeded with and was finished, requiring about ten minutes. At the end of this time it was noticed that the patient was sinking again, and the same means were resorted to as before, but this time unsuccessfully, death resulting in a few moments. No autopsy was obtained.

In the *Boston Medical and Surgical Journal*, July 27th, we find the following:

We have to record a death occurring during the administration of ether in the practice of Dr. A. D. Sinclair, of this city. The patient, a young school-teacher, had suffered for some time from dysmenorrhœa, for which incisions of the os were advised. The operation was performed on Wednesday, July 19th, ether having been administered by Dr. Vogel. The patient was placed upon the left side with the left arm behind her, as in Sims's position for a vaginal examination. The first steps of the operation had scarcely been completed when, to use Dr. Sinclair's expression, the patient suddenly died; we shall hope to obtain a detailed account of the case at an early day. It is hardly necessary to add that the unjust suspicions of foul play which have been thrown around this case have not been borne out by the testimony thus far given at the inquest at the time of writing, and have had no weight in the minds of the professional brethren of Dr. Sinclair.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 14 *to August* 13, 1876.

By S. O. 69, A. G. O., July 26, 1876, the following promotions and appointments in the Medical Deparment are made:

PROMOTIONS.

To be Surgeons with the rank of Major: J. J. WOODWARD, WM. H. FORWOOD, ELY MCCLELLAN, S. A. STORROW, W. D. WOLVERTON, H. HARTSUFF, C. R. GREENLEAF, J. V. D. MIDDLETON, J. H. JANEWAY, H. R. TILTON, S. M. HORTON, and J. C. G. HAPPERSETT.

APPOINTMENTS.

KIMBALL, J. P., Assistant Sugeon.—To accompany battalion of Twenty-second Infantry, under Lieutenant-Colonel Otis, to mouth of Big Horn River, and on arrival report to Brigadier-General Terry for further orders. S. O. 83, Department of Dakota, July 12, 1876.

HARVEY, PH. F., Assistant Surgeon.—To accompany battalion of Twenty-second Infantry, under Lieutenant-Colonel Otis, to mouth of Big Horn River, and on arrival report to Brigadier-General Terry, for further instructions. S. O. 83, C. S., Department of Dakota.

PERIN, G., Surgeon and Medical Director.—Granted leave of absence for one month with permission to apply for an extension of ten days. S. O. 140, Department of the Missouri, July 10, 1876.

MILHAU, J. J., Surgeon.—Leave of absence extended to October 1, 1876, and his resignation accepted by the President, to take effect October 1, 1876. S. O. 148, A. G. O., July 21, 1876.

BYRNE, C. C., Surgeon.—To proceed without delay to mouth of Big Horn River, M. T., and to report to Brigadier-General Terry for duty with his command in the field. S. O. 86, Department of Dakota, July 19, 1876.

GREENLEAF, C. R., Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 115, Department of the South, August 8, 1876.

TILTON, H. R., Assistant Surgeon.—To proceed to mouth of Big Horn River, M. T., and report to Brigadier-General Terry for duty with his command in the field. S. O. 88, Department of Dakota, July 22, 1876.

KINSMAN, J. H., Assistant Surgeon.—To proceed without delay from Fort Ripley, Minn., to Fort A. Lincoln, D. T., for temporary duty at that post. S. O. 83, Department of Dakota, July 12, 1876.

GIRARD, A. C., Assistant Surgeon.—Granted leave of absence for six months, with permission to go beyond sea, to take effect when relieved by Assistant-Surgeon Lippincott. S. O. 148, C. S., A. G. O.

TAYLOR, B. D., Assistant Surgeon.—To proceed immediately to mouth of Big Horn River, M. T., and report to Brigadier-General Terry for duty with his command in the field. S. O. 85, Department of Dakota, July 17, 1876.

To be Surgeons with the rank of Lieutenant-Colonel: W. J. SLOAN, W. S. KING, JAMES SIMMONS, C. C. KEENEY, J. F. HEAD, L. A. EDWARDS, J. F. HAMMOND, E. J. BAILY.

CLEMENTS, B. A., Surgeon.—Assigned to duty with Big Horn Expedition in the field. S. O. 98, Department of the Platte, July 17, 1876.

HAPPERSETT, J. C. G., Surgeon.—To report to the commanding general, Military Division of the Atlantic, for assignment to duty. S. O. 162, A. G. O., August 9, 1876.

PRICE, C. E., Assistant Surgeon.—Assigned to duty at Camp Bidwell, Cal. S. O. 93, C. S., Department of California.

WORTHINGTON, J. C., Assistant Surgeon.—To report to the commanding officer, Department of Arizona, for assignment to duty. S. O. 150, C. S., A. G. O.

HORTON, S. M., Assistant Surgeon.—Assigned to duty as Post Surgeon at Fort McHenry, Md. S. O. 143, Division of the Atlantic, July 28, 1876.

DICKSON, J. M., Assistant Surgeon.—Granted leave of absence for one month from September 1st. S. O. 129, Department of the Gulf, July 8, 1876.

SPENCER, W. G., Assistant Surgeon.—Granted leave of absence for one month. S. O. 106, Department of the South, July 27, 1876.

LORD, GEORGE E., Assistant Surgeon.—Missing in action with Sioux Indians on Little Big Horn River, M. T., June 25, 1876.

LIPPINCOTT, H., Assistant Surgeon.—Assigned to duty at the U. S. Military Academy, West Point. S. O. 148, C. S., A. G. O.

ROSE, G. S., Assistant Surgeon.—Granted leave of absence for two months. S. O. 146, Division of the Atlantic, August 1, 1876.

To be Surgeons with the rank of Colonel: ROBERT MURRAY, CHARLES SUTHERLAND, J. J. B. WRIGHT, J. M. CUYLER.

To be Assistant Medical Medical Purveyors with the rank of Lieutenant-Colonel: CHARLES McCORMICK and C. H. LAUB.

SWIFT, E., Surgeon.—Leave of absence extended two months. S. O. 142, A. G. O., July 14, 1876.

BACHE, D., Surgeon.—Assigned to duty at Angel Island, Cal. S. O. 73, Department of California, July 19, 1876.

McELDERRY, H., Assistant Surgeon.—Granted leave of absence for two months. S. O. 148, C. S., A. G. O.

GIRARD, J. B., Assistant Surgeon.—Granted leave of absence for one month. S. O. 152, A. G. O., July 27, 1876.

SEMIG, B. G., Assistant Surgeon.—Leave of absence extended one month. S. O. 153, A. G. O., July 28, 1876.

BEALL, G. T., Medical Storekeeper.—Granted leave of absence for one month. S. O. 154, A. G. O., July 29, 1876.

Obituary.

WALTER CHANNING, M. D.—The death of this distinguished physician, which took place in the vicinity of Boston, July 21st, removes one of the oldest, if not the very oldest, of the members of the medical profession in the United States. Dr. Channing was born in Newport, April 15, 1786, and had consequently completed more than three months of his ninety-first year at the time of his death. He was entered at Harvard College in 1804, in the same class with his brother, Prof. Edward T. Channing, and his cousin, Mr. Richard H. Dana, the celebrated poet, but taking part with them and others in the rebellion of 1807, a somewhat famous incident in the annals of the college, failed to receive his bachelor's degree in regular course. He commenced his medical studies in Boston and Philadelphia, and, after passing through the usual routine in the University of Edinburgh and the London hospitals, established himself in Boston as a practising physician, in

1812. In 1815 he was appointed Professor of Obstetrics and Medical Jurisprudence in Harvard University, which office he held for nearly forty years, resigning it in 1854. In addition to his extensive practice, he was for nearly twenty years engaged in the Massachusetts General Hospital. Soon after the introduction of anæsthetics in that institution, in 1846, he became deeply interested in the use of ether in childbirth, and through his influence mainly the new agent was successfully applied in cases of that kind in this country. He published an elaborate work on the subject, illustrated by nearly six hundred cases in his own practice, describing an innovation in medical treatment which at that time was considered as daring as it has since proved to be benign. Dr. Channing was not restricted, in his intellectual efforts, within the limits of the medical profession. He was a man of wide culture and excellent literary accomplishments. In many branches of learning he had been a diligent and successful student. He was the author of one or two volumes of miscellaneous poems, and his "Physician's Vacation," published in 1856, is an admirable record of an extensive European tour undertaken at an advanced period of life. Dr. Channing took an active part in the movement for the suppression of intemperance in Massachusetts, was an earnest advocate of the cause of social reform and of the readjustment of the relations of labor and capital, and was always prompt to lend his sympathies to every judicious scheme of philanthropic endeavor. In social life he was a man of exuberant vivacity and humor; his gayety was irrepressible; his conversation was a perpetual flow of brilliant surprises; he had an exhaustless fund of pointed, yet kindly, satire; and, until the infirmities of age and ill health compelled him to pass into comparative retirement, he was courted in every company as an example of cheerful earnestness and smiling wisdom. Dr. Channing was a younger brother of William Ellery Channing, the illustrious divine, and the father of William Ellery Channing, the living poet and prose writer.—*Tribune.*

PROF. EHRENBERG.—The distinguished microscopist, CHRISTIAN GOTTFRIED EHRENBERG, senior professor in the University of Berlin, died in that city on June 27th, at the age of eignty-one. Ehrenberg was born in Delitsch, in 1795; and in March, 1827, having already made for himself a scientific reputation, he was appointed an extraordinary professor in the Berlin University. In 1829 he was selected by Alexander von Humboldt to accompany him and Gustav Rose in their expedition to Siberia. In 1839 he was appointed ordinary professor in the University of Berlin. Ehrenberg did much to bring the microscope into use as an instrument in scientific investigation. His great work on the "Infusoria," the materials of which were collected during his travels with von Humboldt and Rose, is well known in the scientific world. Ehrenberg had for several year's been disabled, by illness and old age, from performing his professional duties.

Prof. Richter.—On the 24th of May Prof. Hermann Eberhard Richter, known, wherever medicine is read in the German language, as editor of *Schmidt's Jahrbücher*, died in Dresden, at the age of sixty-eight. Widely and well known as he was in this position, he was also most favorably known in Germany as founder and editor of the organ of the German Medical Union. His efforts to promote union among physicians and to advance their standing were unwearied, and the profession in Germany feels largely indebted to him for procuring governmental recognition and appreciation of the medical associations. He also took great interest in sanitary science and the development of sanitary legislation. He published several works on various medical topics.—*Medical Record.*

Dr. George H. Napheys died in Philadelphia July 1st. Dr. Napheys graduated at Jefferson Medical College in 1866, and had since made his name widely known by his works on popular medicine. He was the author of "The Physical Life of Woman," "The Transmission of Life," and of a work on modern therapeutics.

The death is announced of Dr. Grenier, late editor of the *Union Médicale du Canada.*

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Original Communications.

Art. I.—*A Comparison of Various Methods of Treatment in Pertussis.*[1]

By P. Brynberg Porter, A. M., M. D., Attending Physician to the New York Free Dispensary for Sick Children, and for Diseases of Children at the Demilt Dispensary, New York.

In the August numbers of the New York Medical Journal for 1872 and 1873 I published articles in reference to the treatment of whooping-cough by chloral, and reported a number of cases in which the remedy had been employed. The series of cases detailed in the former were, I believe, the first ever made public—at all events, in this country—in which this agent had been used. At the time they appeared, my experience with the disease was somewhat limited; but, as far as I had had an opportunity of making use of chloral in it, I was exceedingly pleased with its effects. In this paper I gave it as my opinion that this remedy had a marked effect in alleviating the symptoms of pertussis, and in many instances seemed to really cut short its duration to a very appreciable extent. I furthermore stated that in not a single instance, as far as could be ascertained, had I employed it without its affording greater or less relief to the patient.

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[1] Read before the Medical Journal Association.

In the second paper, after a year's further trial of chloral (during which I had met with a large number of cases of pertussis), I mentioned that the opinion then expressed had been substantially confirmed by my later and more extended experience; though I had to confess to a feeling of slight disappointment in not finding the remedy accomplish quite all that I had previously anticipated in this disease. I was not willing, consequently, to accept the position of Ferand and Walter Ridger, according to whose observations chloral seems to act merely as a palliative, and has no effect whatever upon the course or duration of the disease, but fully concurred in the opinion of Karl Lorey, who was led to believe, from the results obtained in his own cases, that, in general, the severity and frequency of the paroxysms are, in the course of a few days, greatly diminished by chloral; that patients under its influence are almost free from disturbances during the night from paroxysms of coughing, and after an attack, when one does occur, the child rapidly goes to sleep again; and, finally, that the duration of the convulsive stage is generally remarkably short when it is used.

In this paper I alluded to an article by Dr. Thomas D. Davis, of Dayton, Ohio, on "Fluid Extract of Castanea Vesca in Pertussis," which appeared in the *Philadelphia Medical Times* for December 28, 1872, and also to one on the use of quinine in the same, by Dr. B. F. Dawson, of this city, in the *American Journal of Obstetrics*, for February, 1873; but, notwithstanding the success obtained with each of these remedies, for some time after its publication I continued to treat my whooping-cough patients almost exclusively with chloral.

After giving it a still further and altogether very extensive trial, I may say that I have seen no reason to change the opinion stated above in regard to it. As I occasionally met with cases, however, which did not seem at all, or but slightly, benefited by it, I began to make experiments for myself with castanea and quinine, the former of which had been suggested to Dr. Davis when an *interne* of the Philadelphia Hospital, by Dr. John S. Parry, at that time one of the visiting physicians to the institution; and the latter, employed by

Dr. Dawson in accordance with the views of Prof. Binz, of the University of Bonn; and some of the results obtained by these are given below. These cases are not selected, but comprise nearly all of which I have records extending over any considerable period of time. The records of the whole number of dispensary patients treated for pertussis by me during the last few years would present many valuable points in regard to this interesting subject; but, unfortunately, the majority of the cases were seen but once, or twice at the most, and consequently no data could be obtained from them. In order to make the comparison of the different remedies tried as satisfactory as possible, I shall first present a few cases in which chloral was employed, the greater number of these being taken from the series published in the two articles above spoken of:

CASE I. *September* 28*th.*—David K., aged two and a half years, has been sick for over a week, and the characteristic paroxysms have already commenced. Ordered belladonna in full doses.

October 5*th.*—The patient no better; not having, apparently, derived any benefit from the treatment. Ordered one and a half grain of chloral, in sirup-and-water, every three hours.

7*th.*—Marked improvement. The paroxysms much less frequent as well as less severe. Ordered the same to be continued.

19*th.*—Got so much better by the time the last bottle was used that the mother thought it was not worth while to return for any more. The cough is worse again now. Ordered the chloral again in the same doses.

26*th.*—Much improved since the 19th. The paroxysms occur at rarer intervals, and seem to be considerably shorter in duration. Ordered the same continued.

December 12*th.*—Learned that the patient continued steadily to improve after the last date. All vestige of the cough is now gone, and the "whoop" wholly disappeared within three weeks after the last date. Doubtless, if the remedy had been given with proper regularity, the convulsive stage would have been much shorter than it actually was.

The next three all belonged to the same family:

Case II. *December* 30*th.*—Sarah S., aged six years. The cough commenced more than two weeks ago, and has now reached the paroxysmal stage. Ordered three grains of chloral every three hours.

January 6*th.*—Marked improvement. Paroxysms not so frequent, and do not last so long. Expectorates more freely. Ordered the same continued.

13*th.*—Improvement still more marked. "Does not get black and blue in the face now," as she did for a time. Sleeps much better at night; and her appetite, which has hitherto been poor, is now excellent. Ordered the same continued.

27*th.*—Still continues to improve. The same continued.

Case III. *January* 6*th.*—George S., aged nine years. Had been treated previously for tuberculosis, and had greatly improved. Pertussis set in about three weeks ago, and the disease is now fully developed, with extremely severe paroxysms. Ordered five grains chloral every three hours.

13*th.*—Considerable improvement. Paroxysms less frequent and less severe. Ordered the same continued.

23*d.*—Very marked improvement for some days after the last date, when, the medicine having given out, the paroxysms began to increase in violence and frequency, and have now become very bad again. Ordered the same continued.

Case IV. *January* 6*th.*—Emma S., aged eleven years. Commenced coughing more than two weeks ago. Apparently not a very severe case. Ordered five grains of chloral every three hours.

13*th.*—So much better that she scarcely coughed at all. Ordered the same continued.

28*th.*—Seemed almost well while the medicine lasted, but when it was gone the paroxysms returned with great frequency. They have also increased vastly in violence, so that they are now much worse than at any time before. Ordered the same continued.

I learned afterward from the mother that in all three of these children the disease subsided very rapidly after the last date, and so completely that it was not necessary for either of them to take any more of the remedy after the quantity prescribed at that time was exhausted.

Case V. *June* 17*th.*—Annie D., aged twenty-one months. Cough has lasted three weeks; commenced to whoop one week ago; paroxysms very severe now; ordered two grains of chloral every three hours.

19*th.*—Paroxysms less frequent, but equally severe; increased chloral to two and a half grains.

24*th.*—Remarkable improvement. Has no severe paroxysms whatever. Ordered the same continued.

26*th.*—The cough "broken." The child does not whoop at all, and is practically well.

Case VI. *June* 24*th.*—Mary R., aged ten months. Has had pertussis five weeks. Paroxysms of alarming violence. Ordered one grain of chloral every three hours.

26*th.*—Improvement almost magical. Paroxysms very much less frequent and severe; the little patient much easier and better in every respect, and the mother highly delighted in consequence. Increased chloral to one and a quarter grain.

28*th.*—Improvement still continues. Scarcely suffers at all from the paroxysms. Increased chloral to one and a half grain.

July 3*d.*—The "whoop" entirely disappeared some days ago, and she now has no paroxysms whatever. Doing capitally in every respect, a little trace of bronchitis being all that is left of the attack.

Case VII. *May* 19*th.*—Mary B., aged ten months. Has coughed for nearly two weeks, and commenced to whoop the day before yesterday. Up to that time the cough has been growing more and more spasmodic. Now there are about six paroxysms during the day, and they are more frequent as well as more severe at night—a well-marked case, the child whooping almost every time she coughs, and vomiting frequently. Ordered one grain of chloral.

21*st.*—Does not seem any better, except that she does not vomit any more. Increased the dose of chloral to one and a half grain.

23*d.*—The paroxysms began to diminish as soon as she commenced taking the increased dose. Did not have a single one after taking it for the fourth time. Still has a slight cough, which is so loose and easy as not to trouble her in the least. Discontinued the remedy.

June 1*st.*—The child is perfectly well.

Case VIII. *April* 3*d.*—Sophia M., aged two and a half years. Has whooped for five or six days. Coughs frequently, and vomits sometimes. Ordered two and a half grains of chloral every three hours.

5*th.*—Does not whoop at all. Slight cough, only noticeable when she is excited or angry. Ordered the same continued. In this case the child made a perfect recovery promptly, and it was unnecessary to give any more of the chloral. Lest it should be doubted that it was a *bona-fide* case of pertussis, I will state that the little ulcer about the *frenum linguæ*, which is by many regarded as proof positive of the affection, was well marked in this patient.

As a rule, it will be noticed that the chloral was commenced about the end of the first week of the paroxysmal stage, which is the period when the severity of the disease usually occasions alarm on the part of the mother, and induces her to seek medical advice.

In the first four cases the whooping entirely ceased in from five to six weeks after this period. In all the effect of the chloral was marked in its immediate influence on the distressing symptoms, and doubtless the duration of the disease would have been still further shortened had the remedy been used with sufficient pertinacity. Whooping-cough, when left to itself, as is well known, rarely runs its course in less than two months. In the fifth and six cases the paroxysmal stage lasted only about a week after the chloral was commenced, and in the seventh and eighth only one or two days.

The last case which I shall mention, in which chloral was employed, was a very obstinate one; this being due chiefly, I think, to the severe bronchitis by which it was complicated.

Case IX. *March* 14*th.*—John D., aged five years. Has had a cough for nearly a month past. Does not whoop, but has never had pertussis. Found severe bronchitis existing, and ordered a mixture containing the sirups of squill and senega, and paregoric.

17*th.*—Since he was last seen the cough has become paroxysmal. Coughs very frequently, whooping three or four times through the day and every hour at night. "Has a great kink," and gets black in the face during the paroxysm. Ordered five grains of chloral every three hours.

19*th.*—Whoops only once or twice a day now, and not nearly so often at night as before. Still coughs considerably, and has the physiognomy of severe pertussis. His eyes are swollen and watery, and last night he had an attack of epistaxis. Increased the chloral to seven and a half grains.

21*st.*—Does not whoop at all, but the cough is still troublesome. The boy sleeps a great deal, but does not suffer the slightest inconvenience from the large doses of chloral. Ordered the same continued.

24*th.*—Remains about the same. Does not whoop, but still coughs. Vomits occasionally. Ordered the same continued.

26*th.*—Cough still troublesome, especially at night. Some vomiting and occasional epistaxis. Whooped three times last night, the first time since he first began taking the chloral. Increased the dose to ten grains.

28*th.*—Coughs still, but sleeps more. No bad effects from the chloral. When given at night, it seems to control the cough at once. Has whooped only once since he was here. Ordered the same continued.

I learned afterward that the mother became discouraged, and concluded to let the disease run its course, which it did in somewhat more than two months, the paroxysms and whooping returning again with increased violence. At the end of that time I saw the boy, and found him much reduced; but he afterward improved rapidly on the use of cod-liver oil and iodide of iron. From the immediate effect of the chloral in controlling the spasm, I cannot but think that the result of the case would have been much more satisfactory had it been persisted in.

I shall now detail a few cases in which I used the quinine-treatment adopted by my friend Dr. Dawson. As stated in my article in the NEW YORK MEDICAL JOURNAL for August, 1873, I had the opportunity of seeing several of the cases which he had treated with quinine, and had been much pleased with the results observed; but it was not until some time after this date that I gave it any extended trial personally. I may say, in passing, that Dr. Dawson is still using this treatment with excellent success, and it is his ordinary practice to give chloral at night, in connection with the quinine, when the paroxysms are very troublesome, on account of its immediate effect in controlling them.

Without assenting to the views of Prof. Binz in regard to the pathology of pertussis, which Dr. Dawson has adopted, I have always strictly observed the rules which the latter has laid down for the administration of quinine in this affection, which are as follows:

1. Give the quinine dissolved by acid in pure water only. For children under three years, from five to eight grains, and for older children and adults from ten to twelve grains to the ounce.

2. Give not less than a teaspoonful every hour, or at the longest every two hours, during the day, and whenever cough comes on in the night.

3. Give nothing afterward for some minutes to destroy the taste or to wash out the mouth.

4. Continue giving it, notwithstanding the first doses may be vomited.

5. Be sure that the quinine is pure and thoroughly dissolved.

CASE X. *September 5th.*—Margaret F., aged eight months. This case occurred in my private practice, and the paroxysmal stage had already lasted three weeks when I was called in. The spells were very violent and frequent, and the child's general health much impaired. Ordered quinine in solution (five grains to the ounce), a teaspoonful every hour.

9*th.*—The mother says the medicine worked like a charm. The paroxysms are not nearly so frequent or severe, and the little patient looks much better.

16*th.*—The "whoop" has now entirely disappeared, and the child is much improved in every way. I afterward learned that there was no return of the paroxysms.

CASE XI. *September 21st.*—Rosa B., aged four years. Has had whooping-cough for one month, and violent paroxysms now occur very often through the day, and about every half-hour at night. The child seems also to be suffering from intermittent fever. Ordered quinine every hour.

25*th.*—By some mistake the medicine has been given only every three hours, but nevertheless she scarcely whoops at all now, though the fever has not been entirely broken up. Cough very loose. Renewed the same medicine.

28*th.*—Coughs only once in a great while, and without any effort. Does not whoop at all now; slight feverishness at times. Continued the same.

October 5*th.*—Still does not whoop.

CASE XII. *July* 1*st.*—Ann R., aged four months. Commenced to whoop June 27th. Paroxysms very severe. Ordered quinine.

6*th.*—Cough no better, and the child is now suffering from diarrhœa, and much reduced in consequence. Ordered an emulsion of castor-oil and brandy.

13*th.*—The bowels are now in a healthy condition again, but the cough is still very troublesome. Returned to the quinine solution.

August 8*th.*—Learn that the effect of the remedy was very favorable, so that the cough did not give the child any further trouble. She ceased entirely to whoop a week ago.

It will be seen that the results obtained by the quinine-treatment in these cases, notwithstanding the fact that it was not properly carried out, were very good. Perhaps the next case ought not to be given, on account of its incompleteness; but it will at all events serve to show, in some measure, the immediate effects of the remedy.

CASE XIII. *April* 1*st.*—John C., aged one year. Has an attack, apparently, of ordinary bronchitis. Ordered a simple expectorant mixture.

20*th.*—Pertussis has now developed, the paroxysmal stage having commenced nearly two weeks ago. The coughing-spells, which are very violent, occur about twelve times during the day and oftener at night. Ordered quinine.

22*d.*—Very much better in every way. Still whoops somewhat, but not nearly so often. As is frequently the case in dispensary practice, the patient did not return again.

Of late I have been making an extensive trial of castanea vesca, and some of the results obtained may be seen in the following cases. The preparation usually employed was Cooper's fluid extract, which is made with great care by cold expression:

CASE XIV. *December 4th.*—George B., aged five years and four months. Has had a cough for four weeks, but commenced to whoop only one week ago. The paroxysms are very severe, but do not occur more than three or four times through the day, though oftener at night. Ordered one drachm of the fluid extract of castanea every three hours.

7th.—Much improved. Does not cough or whoop so often, and the spells are much less severe. Ordered the same continued.

11*th.*—Still further improvement. The same.

16*th.*—Continued much better until last night, when the paroxysms returned with severity, the medicine having given out previously. The same.

23*d.*—Very much better; scarcely coughs or whoops at all. The same continued.

30*th.*—Still further improvement. The same.

January 6*th.*—Does not whoop at all. The medicine was kept up for some time longer as a precautionary measure, but there was no return of the disease.

CASE XV. *January* 29*th.*—Thomas M., aged six years. Cough commenced four weeks ago, and he has whooped for two and a half weeks. Paroxysms occur every half-hour through the day, and oftener at night, and the child vomits a great deal. Ordered one drachm of the fluid extract of castanea every three hours.

February 1*st.*—Very marked improvement. Whoops only two or three times during the day, and not nearly so often at night as before. Has ceased to vomit. Continue the same.

5*th.*—Still further improvement. The same.

8*th.*—The improvement still more marked. The child's appetite is very much better, and he does not whoop every time he coughs, as he formerly did. The same.

12*th.*—Still doing capitally. Scarcely whoops at all. The same.

17*th.*—Has ceased to whoop entirely, though he still coughs occasionally. The same.

26*th.*—Has had no return whatever of the paroxysms since the last date, although the medicine has been gone for some time. The child having been subject to chronic bronchitis before the attack of pertussis, and the cough still continuing, I now put him on the use of cod-liver oil and iron, from which he formerly derived great benefit.

CASE XVI. *January* 29*th.*—Mary M., aged eight years. Has coughed for two weeks, and whooped for one. The paroxysms are very severe, and often occasion vomiting. Ordered one drachm of the castanea extract every three hours.

February 1*st.*—Marked improvement. Does not cough or whoop nearly so often, nor are the paroxysms so severe. Does not vomit any more, and is much better in every way. The same continued.

5*th.*—Still further improvement. The same.

8*th.*—The improvement still continues. She still coughs somewhat, but does not whoop every time she coughs, as formerly. Ordered the same continued.

12*th.*—"Getting along splendidly." Coughs and whoops less and less all the time. The same.

17*th.*—Does not whoop at all, and the cough, which occurs but very rarely, is loose, and not at all troublesome. The appetite, which was poor earlier, is now quite hearty, and she is in excellent condition generally.

26*th.*—Entirely well, with the exception of slight traces of bronchitis.

CASE XVII. *February* 18*th.*—Mary H., aged nine months; the subject of rachitis; whooping-cough is now in the family. Her cough commenced five days ago, and it is constantly increasing in severity, as well as becoming spasmodic. Ordered twenty drops of the fluid extract of castanea.

23*d.*—Had four paroxysms the day she commenced taking the medicine, and an unusually severe one that night. After that she had two paroxysms each day for several days, but has had none at all since the day before yesterday. Has simply a little ordinary cough now, which is growing looser all the time.

27*th.*—Her mother noticed that for a day or two after the last date the paroxysms sometimes returned just about ten or fifteen minutes before the expiration of the intervals of three hours at which the medicine was given. Thus, on the 26th she had four or five, always at this time. She has had no paroxysms at all, however, for two days. Ordered the same dose continued, but to be given every two hours if the paroxysms returned.

March 2*d.*—Has had no paroxysms whatever since the last date, with the exception of one yesterday when she was suddenly frightened. Has simply a little loose cough at times, which does not worry her in the least. The child looks well, is lively, and seems in excellent condition generally. Ordered twenty-five drops every four hours, but oftener if the paroxysms should return.

9*th.*—Still no paroxysms, and she scarcely coughs at all. Continue the same.

21*st.*—Entirely well.

The next case is one in which convulsions occurred. Its course would probably have been considerably shorter, if the mother had brought the child more regularly to the dispensary.

Case XVIII. *February* 23*d.*—William H., aged eight months. The cough commenced three weeks ago, and whooping one week later. The paroxysms, of which there are six or seven through the day, are accompanied by convulsions, which have become alarming since the day before yesterday. Ordered thirty drops of the fluid extract of castanea every three hours.

March 9*th.*—Was wonderfully relieved up to March 5th (scarcely whooping at all), when the medicine gave out; now whoops two or three times a day, but there has been no return of the convulsions. Ordered the same continued.

18*th.*—Improved again wonderfully after the last date. Did not whoop at all, and the cough was much better until the medicine gave out a few days ago. The cough then grew worse, and he began to whoop, and there were also symptoms of impending convulsions again. Ordered the same continued.

23d.—The symptoms above mentioned quickly disappeared as soon as the child was put upon the remedy again, and now he does not whoop at all. Still coughs somewhat, but is much better in every respect. The same continued.

25th.—Still no "whoop." General condition still further improved. The same continued.

April 1st.—Has not coughed or whooped since the last date. There having been no paroxysm of the disease since March 18th, the remedy was discontinued.

In the above series of cases it will be noted that very excellent results were obtained with castanea, but not so good as those recorded by Dr. Davis in the paper previously referred to. In his fifteen cases the paroxysms were completely controlled, as a rule, by the fifth day after the remedy was commenced. Two important elements, however, which were lacking in my cases, contributed to this extraordinary success, viz.: The patients, being inmates of a hospital, were kept in a uniform temperature, and the medicine was administered regularly by a trained nurse, under whose supervision the children constantly remained. In all of my cases above reported the castanea was given tolerably early in the disease, and the paroxysmal stage was completely controlled in from one to four weeks thereafter. Dr. Davis attributes the usefulness of the remedy in pertussis to its expectorant and antispasmodic qualities combined.

I have now to present another series of cases, in which the castanea seems to have been of little or no benefit. The first of these was the first case in which I made trial of this agent, but it could hardly be considered a test-case, on account of the serious disease by which it was complicated. As a rule, I have found severe affections of the bowels occurring in the course of pertussis exceedingly dangerous, especially in warm weather, and not infrequently rendering the prognosis unfavorable at such times.

Case XIX. *September* 13, 1874.—Was called at midnight to see a child, Catherine C., aged two years, who had recently returned from the country, where she had become very fat and strong. While there, however, she was exposed to the infection of whooping-cough, and about the time of her return to town the affection declared itself. On the night of September 9th, after it was fully developed, an acute attack of dysentery set in. For three or four days she was under the care of irregular practitioners, and when I was summoned I found the little patient much exhausted. For this reason I thought it best to attend at first exclusively to the condition of the bowels (besides giving, of course, what stimulus seemed necessary), but, finding it impossible to check them while the terrible paroxysms of coughing (which seemed to be all the time increasing in violence) continued, I endeavored to control the latter by the use of castanea. Twenty to thirty drops of Neergaard's fluid extract were therefore given in addition to the remedies addressed to the dysentery, or, rather, the alarming catarrhal diarrhœa in which it had resulted. At first, the castanea was vomited, but after waiting for a considerable period it was renewed, and, being now retained, was given at regular intervals. It had no appreciable effect upon the paroxysms, however, and the child finally died on the morning of the 17th, from exhaustion, after a series of paroxysms of the most extreme violence, accompanied by fearful purging.

Case XX. *January* 18*th.*—Ellen L., aged sixteen months. A rachitic child, suffering from dentition, with feverishness. Commenced to cough nine weeks ago, and to whoop six weeks ago, and is growing worse all the time. The paroxysms, which are very violent, occur very often through the day, and every ten minutes at night, according to the mother's account. Ordered thirty drops of the fluid extract of castanea.

27*th.*—The medicine did the cough much good, but the mother says it also induced constant vomiting, and a watery discharge from the bowels whenever she coughed. It is certainly a question whether these were not due rather to the disease itself, but the remedy was discontinued, and quinine substituted in its place. This was a dispensary case, and the patient did not return.

Case XXI. *January* 29*th.*—Margaret M., aged one year and seven months; has coughed for three months and whooped for two weeks. Vomits a good deal, and always gets black in the face during the paroxysms. Ordered thirty drops of the fluid extract of castanea.

February 1*st.*—Coughs and whoops nearly as often; but the paroxysms are not so severe. Somewhat improved in other respects. Ordered the same continued.

5*th.*—About the same. Coughs and whoops every half-hour, and always vomits afterward. Increased the castanea to forty drops.

8*th.*—No better. Has lost a good deal of flesh, and is quite feverish. Ordered quinine every hour.

12*th.*—Very greatly improved. Does not vomit nearly so often, and seems much stronger and brighter. Still coughs a good deal, but the cough is much softer, and she does not whoop nearly so often. Ordered the quinine continued.

17*th.*—Wonderfully improved in every way. Whoops very little, but still coughs considerably.

26*th.*—Entirely well, with the exception of a slight cough, which is very soft. Has not whooped since last date.

CASE XXII. *February* 1*st.*—Mary T., aged four years. Had measles two weeks ago, and, while suffering from that, pertussis set in. Now has very violent paroxysms, which cause her to grow black in the face. The countenance is considerably swollen, especially in the morning. Whoops three or four times through the day, and every hour at night. Ordered thirty drops fluid extract of castanea.

8*th.*—No better. The child's mother, however, was of the lowest order of intelligence, and did not give the medicine with any regularity. Patient did not return.

CASE XXIII. *February* 23*d.*—Mary H., aged two years and nine months. Has had a cough for a week, and has whooped for the last two days. Very severe paroxysms, about five in a day. Ordered thirty drops fluid extract of castanea.

March 2*d.*—No better. Increased dose to one drachm.

9*th.*—Was considerably relieved, with paroxysms less frequent and less severe, until March 5th, when the medicine gave out. Since then whoops oftener. Ordered the same continued.

18*th.*—Was again much relieved. Whoop did not disappear altogether, but occurred very seldom, and the cough was not troublesome until the medicine gave out, several days ago, when the paroxysms set in again with great violence, and now occur almost every half-hour. Ordered the same continued.

23*d.*—Not much improvement. Increased dose to one and a half drachm.

25*th.*—Still no improvement. Increased dose to two drachms.

April 1*st.*—Rather grows worse, instead of better; coughs and whoops "every ten minutes." Ordered quinine in place of the castanea.

6*th.*—Improved greatly, not whooping nearly so much. The medicine gave out on the 3d, and since then she has grown worse again. Ordered the same again. Patient did not return.

Case XXIV. *April* 7*th.*—Richard T., aged nine years. Has coughed two weeks and whooped one week. Paroxysms frequent and severe. Ordered one drachm of fluid extract of castanea.

13*th.*—Much improved. The same continued.

17*th.*—Does not seem any better. Increased dose to two drachms. Patient did not return.

Case XXV. *June* 8*th.*—Edward G., aged eleven months. Has had a cough for two weeks. Commenced whooping within the last three or four days, and is becoming worse all the time. Coughs and whoops every hour or two through the day, and "every ten minutes at night." Paroxysms very violent. Ordered thirty drops of fluid extract of castanea.

13*th.*—Considerable improvement. Whoops only about once an hour through the night, and not so often by day. Ordered the same continued.

17*th.*—Continued better up to last night, when the paroxysms were renewed with great violence and frequency. Is very weak, and vomits very often. While at the dispensary he had one of the most terrific and exhaustive paroxysms I have ever seen. Under the circumstances, ordered quinine.

19*th.*—Considerably better. Paroxysms not more frequent than every hour and a half. Ordered the same continued. Patient did not return.

Case XXVI. *July* 1*st.*—John R., aged one year. Has coughed for two weeks, and whooped since June 27th. Paroxysms very troublesome. Ordered twenty drops fluid extract of castanea.

6*th.*—Much improved. The coughing-spells still pretty frequent, but not so hard. Ordered forty-five drops of the castanea.

13*th.*—Cough about the same. Urgent diarrhœa has set in, the weather being very hot. Ordered an emulsion of castor-oil, with a small quantity of paregoric, and discontinued the castanea.

August 8*th.*—Learned that the diarrhœa had been controlled by the medicine, and that she ceased to whoop August 1st.

In several of the above cases it will have been noted that the patient was put upon quinia when the castanea seemed to fail, and usually with excellent results. In the next one the quinine did not appear to give relief, and chloral was substituted.

Case XXVII. *December* 4*th.*—Frederick B., aged two years and three months. Has coughed for four weeks, but whooped only for one week. Paroxysms now very severe. Ordered fluid extract of castanea, thirty drops.

7*th.*—No better. Vomited the medicine every time he took it, and it was therefore discontinued. Ordered quinine instead.

8*th.*—No better. Ordered two grains chloral every three hours.

16*th.*—Much better; the first time that any improvement has been noted. Ordered the same continued.

30*th.*—Still further improvement. The same continued.

January 6*th.*—Does not whoop at all, and coughs very little.

In the next case chloral was also given; but, unfortunately, the patient did not return to the dispensary.

Case XXVIII. *March* 2*d.*—Catherine H., aged eleven months. Has coughed for a week, and whooped three days. Paroxysms very violent, occurring every half-hour through the day, and oftener at night. Ordered thirty drops fluid extract of castanea.

4*th.*—About the same. Increased castanea to forty-five drops.

11*th.*—No better. Ordered chloral, one grain every three hours.

I have used the castanea, as well as chloral and quinine, in a very large number of cases besides those recorded above, but was unable to make satisfactory notes in regard to most of them. Could I have preserved accurate records of all the cases treated by the three remedies, some definite conclusions as to the time required for the control of the disease by each agent might doubtless have been arrived at. Still, from those here given, some idea can be obtained of their action, and I think it will be found, from an analysis of them, that in the average number of cases where either of the remedies seems to be of advantage, and is given early, the paroxysmal stage is about three weeks in duration. In some instances it was much shorter, and in others considerably longer than this. In comparison with the others, however, I am constrained to say that I have found castanea fail in a much larger proportion of the cases in which it was tried than either chloral or quinine. In those cases, however, in which it is really of benefit to the patient, its action seems quite as efficient as either of the others. After my more extended experience, I can only reiterate what I said in my last paper on pertussis (1873), when I had myself made trial of only the chloral: "With three such excellent agents as castanea, quinine, and chloral, it seems to me that pertussis ought no longer to be such a formidable adversary as it has hitherto been generally considered; for, if one fails, we have the others to fall back upon." I can also see no possible objection to combining any two of them in troublesome cases; though I have hitherto generally confined myself strictly to the use of one at a time, so as to observe the individual action of the remedy in each instance.

I have nothing new to contribute to the pathology of pertussis, and, were I to go into this vexed question at the present time, could only quote the opinions of others.

As regards other methods of treatment which have been lauded by various authorities, such as carbolic acid and belladonna inhalations, electricity, the iodide of silver, nitric acid, and bromide of ammonium, I have had little experience with any of them. Dr. Robert Bell, of Glasgow, who has tried the iodide of silver with success, does not attempt to explain the precise action of the remedy; but, believing that whooping-cough is a disease of the gastric periphery of the pneumogastric nerve, he thinks the silver salt acts as a sedative to this morbidly sensitive nerve, preventing reflex irritation being conveyed to its pulmonary ramifications. If his views are correct, most of the remedies that have been successful in controlling the affection probably act in the same general manner.

In 1874 Wilde claimed (*Deutsches Archiv f. klin. Med., Allg. Wien. med. Zeitung*, 4, 5, 1874) that he could cure any case of whooping-cough within eight days, by the following treatment: The patient is not to leave the room, and at every access of coughing is to hold before his mouth a small piece of cloth folded several times, and wet with a teaspoonful of the following solution: ether, 60 parts; chloroform, 30 parts; turpentine, 10 parts.

During the past spring, Dr. S. D. Powell read a paper on pertussis before the New York Neurological Society, in which he advocated, as a curative measure, a single complete etherization of the patient, extending over a period of from thirty to fifty minutes (*see* New York letter, *Philadelphia Medical Times*, April 15, 1876, p. 355). Dr. Powell related six cases altogether treated by this method. In two of them, the paroxysmal stage of the disease had lasted at least three or four weeks at the time the ether was tried, and in the others was of still longer standing. In regard to the etiology and pathology of whooping-cough, he believed it to be the result of inoculation by a specific poison (like that of scarlatina or measles, for instance), and that it is a pure neurosis affecting the pneumogastric, the whoop being due to the action of the crico-thyroid muscle, as is the case in laryngismus stridulus.

In order to test this method personally, I put myself on the lookout for a suitable case, and at length succeeded in finding the following typical one on which to make the experiment:

Case XXIX. *April* 14, 1876.—Annie C., aged five years. Has had a cough about two weeks. It gradually grew worse until a week ago, when she began to whoop—at first only occasionally. Now there are about a dozen paroxysms through the day, and one every half-hour through the night. These are all very severe, so that she dreads their approach, and will sometimes keep from talking for a long time, being afraid to open her mouth, the mother says, lest it should bring on a "spell." She has lost her appetite, and, being naturally a delicate child, is now quite weak, and losing flesh. Has taken no medicine whatever, except a dose of castor-oil more than a week ago. Just after my arrival at the house she had a typical paroxysm of pertussis; so that there could be no doubt about the diagnosis. I commenced the inhalation with Squibb's ether at 2.55 P. M., and continued it uninterruptedly until 3.40—forty-five minutes. Of this time, she was completely anæsthetized at least forty minutes, and, as this complete anæsthesia lasted for quite half an hour after I stopped giving the ether, she was really fully under its influence for at least an hour and ten minutes. She coughed a great many times during the earlier part of the inhalation, but did not whoop at all. This tendency to cough gradually subsided, and did not return again during the inhalation. She had a slight spell of coughing, however, just after the ether was discontinued, but no whoop. The child's condition remained excellent throughout, though of course there was violent throbbing of the carotids, and also quite an accumulation of frothy mucus in the larynx, trachea, and fauces. I used four ounces of ether in the inhalation.

15*th*.—To my chagrin, I found that the patient was no better, having coughed and whooped just as much last night and this morning as before, the treatment not appearing to have exerted any effect whatever upon the course of the disease.

I do not know how far this method has been tested by the profession in this and other cities; but I am informed that Prof. A. L. Loomis made trial of it in two instances, with the effect in each of temporarily mitigating the severity of the paroxysms. In a few hours, however, they returned again with much more than their previous violence—so much so, indeed, that he was really afraid, for a time, that one of the children would be asphyxiated.

Art. II.—*The Pathology of Pyæmia.* By Oscar J. Coskery, Professor of Surgery in the College of Physicians and Surgeons, Baltimore, Md.

The pathology of pyæmia has been for so long a vexed question, having become at last a sort of open common, upon which any wandering knight may have his tilt, that the mere opening of the subject again is enough to frighten the timid. Still it is one that appeals to us very strongly, for only upon our knowledge of it can depend the possibility of the prevention, at least in many cases, of this terrible scourge.

From the earliest recognition of pyæmia as a disease, down to Virchow's time, the old theory of pus absorption, as such, held sway. Virchow, demonstrating emboli as a cause of secondary abscesses, produced a revulsion of feeling that has ended in a nearly complete overthrow of the former theory, and substitution in its place of the latter. I believe both of these to be correct, and would add two other modes which may exist alone or combined. The first mode in which pyæmia may be produced is that of blood-poisoning, pure and simple. In a thesis written in 1864, I combated the then prevalent theory of pus absorption in all cases, and made the following statement: "I believe pyæmia to be a disease resembling typhoid fever, and that it is as useless to look with the microscope for the cause as it would be in typhoid." In 1867 or 1868 Jules Guerin made use of these words at a sitting of the Paris Academy of Medicine: "I believe pyæmia to be a surgical typhoid fever." In the discussion at the Pathological Society, in January, 1874, Mr. Savory said: "Throwing off the shackles of phlebitis and thrombosis as links in the chain of causation, we should regard pyæmia as one form or phase of blood-poisoning."

Considering pyæmia as a form of blood-poisoning, I believe there are two ways in which this may occur, and the first I have never before seen described. It is this: Given a person already depressed, both mentally and physically, as by a serious accident, allow him to breathe contaminated air, as in a crowded hospital, oxygenation being imperfectly performed, and may not the non-depurated blood, by reducing the vitality of the blood-vessels themselves (as the vitality of other organs is reduced under like circumstances), so act upon the coats of the vessels as to lead to a slow form of inflammation in them, retarding the circulation and tending to the formation of thrombi, and secondarily of emboli? The epidemic of pyæmia that followed typhus fever in Glasgow, and alluded to by Dr. A. P. Stewart, might be taken as some evidence of the probability of this theory, as well as the frequency with which the disease is seen in hospitals.

A second way in which blood-poisoning may occur is by the direct absorption of pus or of some of its constituents, producing, primarily, such changes in the blood as to lead, secondarily, to general blood changes. This may, and does, occur through open veins; for, though suppurative phlebitis is denied by some good authorities, I have myself seen one case—in which the right femoral vein was nearly as large as the index-finger, the coats very rigid and much thickened, and purulent, decomposing fluid partly filling its calibre as far as the iliac, with evidences of inflammation extending up the vena cava to the auricle, and secondary abscesses in the lung—following an amputation of the thigh. But this would not account for the cases in which the pus is not formed in the vein, nor where there are no open veins. I would account for those in this way: Suppose we have a number of veins transmitting blood of a certain specific gravity, these veins lying in a cavity containing fluid of a less density, is it irrational to suppose, from what we know of the dialysing power of animal membranes (especially when the contents are in motion)—is it irrational, I say, to suppose that some of the constituents of the less dense fluid will pass into the circulation? I would thus account for the majority of these cases; for, cut completely across a vein, and, unless of large size, it collapses up to the next branch and can transmit nothing, the *vis a tergo* being destroyed.

The third mode in which pyæmia may be produced, that I shall allude to, is that called "Thrombolosis" by Mr. Callender. He thinks this a frequent condition following blood-clots in veins as a result of contusions, and proceeds thus: "When the system becomes poisoned through some septic influences, the change produced in the fibrine is such that, deposited in the veins, it rapidly does undergo this disintegrating process. When this disintegration is established, after a certain time, the disintegrated fluid passes into the general circulation, lodges at various points in the tissues or organs of the body, and there produces what I should prefer to call secondary deposits. It attracts around it first coagula: these coagula again disintegrate and break down, and we have, not abscesses, but softening, disintegrating masses of fibrine." This is a non-inflammatory process, and he makes a great distinction between the condition and that produced by embolism.

The last cause of the secondary abscesses is that of embolism, the most commonly received theory, and the one most easily understood. It need not detain us longer than to allude to a very good point made by Mr. Moxon in a late lecture, in reference to the results of emboli impacted in positions where the blood is stationary. I quote *in extenso:* "Many facts," he says, "go to show that an impure state of the blood produces greater effects when there is stagnation of it. This is plainly indicated by the position of the abscesses in the dependent parts of the lung; but the same truth is also shown by the suppuration of the veins in which thrombi have formed. This I have seen in several marked instances, especially about the prostatic plexus, or behind the valves of the great veins, or in the cranial sinuses. Here the explanation is almost as clear as that of embolism; for it is certain that, when the blood is impure, the impurity will be increased by accumulation when it ceases to circulate, since the effect of circulation is to bring the blood under the action of purifying organs. This we see is so certain that the explanation of the occurrence of suppuration in dependent and stagnant situations is almost as secure as that of embolism; and it is quite possible that the two conditions may coexist, so that, when small emboli are sown broadcast in the vessels of the lungs, those which lodge where the blood is purified freely in the upper portion of the lung may not be able to excite suppuration; while those which stay in the stagnant lower lobes, already œdematous and scarce breathing at all, suffice to arose the inflammatory process;" and he suggests the term "stagnative pyæmia" for the condition.

Billroth lays great stress upon the chills that occur in pyæmia, and refers them to the introduction from time to time of pus or its constituents. Experiments upon dogs and horses only produced one chill at each repetition of the putrid injection. But how can we, on this hypothesis, account for those cases in which there is no primary secreting surface? Have we yet accounted for the intermittent chills of malarial fevers, and is it beyond our comprehension to understand how a surgical miasm may produce a like impression upon the nervous system?

If I may here be allowed, I would suggest a theoretical cause for the chill in both conditions. The action of digitalis, and how it may accumulate in the system, is in point. Here the poison, at first giving rise, perhaps, to no symptoms, slowly produces such a change in the nervous system as to end in an explosion and death. Now, may not another poison, not so potent in degree, accumulate in the same manner, produce *its* peculiar explosion, a chill, and not terminate fatally? During the stage of rest, or absence of chill, the body is recovering itself, and if the process ended here the cure would be complete. But no sooner has the equilibrium been established than the poison again accumulates, the morbid process passes beyond, and again such a condition of the nervous system is produced as to end in an explosion or chill. This is somewhat similar to the theory now most prevalent in reference to the epileptic seizure, and seems to me applicable to the present subject. It is difficult, I acknowledge, of demonstration. Again, the known immunity from zymotic diseases possessed by the lower animals would render the experiments only negative in results.

Billroth seems also to think that the lymphatics are concerned in the absorption of the poisonous material. This appears to me hard to prove: first, because the joints in which the pus collections so often take place are little, if at all, supplied with these vessels, and the visceral abscesses are, as a rule, proved to be the results of blood-infection, thrombolosis, or embolic infarction; and, second, because pyæmia does not progress as do other diseases known to be propagated through the lymphatics.

It may now be asked, Why do we find that in certain cases secondary small abscesses occur in the viscera, while in others large joint collections? The two conditions must depend upon the same cause, for we often find them existing together. I would not refer them to any special affinity that these parts have for this form of destruction, but simply to a natural weakness of the particular part in the particular case, and tendency there to this form of inflammation.

When we consider the numerous ways, and the seeming ease with which this disease may be lit up, we may wonder that it is as rare as we find it. Of the great number of suppurating wounds constantly seen, how few end in pyæmia? I believe its rarity may, in part, at least, be explained thus. The tendency in the great majority of wounds is to the formation of granulations; in a word, to repair. Now, Billroth has proved that a non-broken granulating surface does not absorb fluid, and acts as a shield held by the body at large against the enemy striving to enter. Still, no doubt this blood-poisoning does occur more often than is suspected, but the constitution of the patient is capable of resisting the evil influence, for various reasons, as, for example, is shown of the upper portion of the lungs in Mr. Moxon's lecture. More particularly would this be the case in those in whom absorption is slow.

Following the example of the London *Lancet* of April 4, 1874, I would sum up our stock of knowledge of pyæmia as follows: Pyæmia is a disease, the tendency in which, unlike most other acute diseases, is toward death from exhaustion, produced by extensive and wide-spread pus formations. That it may be lit up in either of three ways: by direct inoculation, by indirect inoculation, and by systemic miasmatic poisoning. For although the latter is not fully proved, there is, to my mind, little doubt about it. Be it the impalpable dust of Billroth, the microzymes of Bastian, or what not, there is a *something* often present in the atmosphere of crowded hospitals, or of badly-ventilated houses, that so acts upon the general health of patients as to result, at times, in pyæmia; while at other times and under other circumstances, another variety of poisonous material being found, some one of the other forms of blood-poisoning may make its appearance instead. That the disease may be produced by direct inoculation I think proved by the case of suppurative phlebitis alluded to above. The third mode, which I would prefer to call indirect inoculation, is the "Thrombolosis" of Mr. Callender. Here the blood-vessels of the part first take on the changes, and the secondary abscesses become developed only after the absorption of the disintegrating fibrine. And I believe that many cases of what are thought to be the result of direct contagion are only indirectly so; that sponges, for instance, loaded with the poisonous material—this material coming in contact with the surface of broken granulations—can produce such changes in the blood-vessels of the part as may, by reacting upon the blood, and through it upon distant parts, produce the characteristic phenomena.

In a word, considering the secondary deposits as local inflammations or mechanical effects, I believe that the diseased condition known as pyæmia is one closely resembling the typhoid, a pure blood-poisoning, depending for its origin upon a miasmatic *something* introduced directly into the blood coming from a suppurating spot or through the lungs, but in either case caused, in all probability, by the same poisonous agent, and producing similar effects.

ART. III.—*A New Combination Speculum.* By W. D. SCHUYLER, M. D., New York.

THE accompanying cut represents a speculum which I have devised, and now, after two years of trial, have confidence to offer to the profession as a most useful instrument—far superior in its practical working to any other of its kind.

As such it comprises the following desirable points: 1. It is easily introduced. 2. When *in situ* it affords the largest possible field for observation, i. e., nearly all of the inner surface of the vagina, and all of the vaginal portion of the uterus. 3. It is self-retaining, and without giving the patient pain or discomfort. 4. With it the uterus may be fixed and held in a steady position.

It will be seen to consist of a posterior blade (*A*), two lateral blades (*B B*), and a depressor (*C*), which also performs the function of an anterior blade. The lateral blades and anterior depressor are worked by levers, and held by screws, which move up and down on a standard placed in the handle of the instrument. The handle is made of hard rubber, and is attached by a screw, so that it can be removed. The *posterior blade* (Sims) is quite narrow for the first three-fifths of its length, then gradually widens until it terminates in a stem for the handle, and two wings to which are attached the other blades and depressor. The *side-blades* are broad at their base, where the pressure is lateral, then narrowed, and, as they approach their extremity, twisted on their long axis, both to give to them a turning motion as they are opened in the vagina, and an antero-posterior bearing high up in that canal. The depressor, besides being thrown out anteriorly by the action of its lever, has another, a sliding, up-and-down movement, which is of great convenience in lifting the womb into any desired position. By-the-way, this depressor is so attached, by a lock especially devised for the purpose, that it can be quickly removed or detached from the rest of the instrument.

Fig. 1 of the cut represents the speculum with its blades distended, as it is when in position. Fig. 2 is the same closed, with the depressor drawn up ready for introduction. In order to introduce it the woman is placed in the Sims position, i. e., lying on her left side, with the thighs flexed on the body, *drawn well up*, the legs flexed on the thighs at an easy angle, one resting on the other. The body is now turned—twisted, rather—more to the left, so the face looks downward, and the breasts rest on the table; the left hand and arm are carried over on the back, where they rest. Besides (*and this is very important*), the knees should now be raised three or four inches from the table on which the hips rest, to tilt the pelvis backward. This throws the womb into a central position in the pelvic strait, which facilitates examination. The patient may be placed with regard to light accordingly as the operator desires to use it, either direct or reflected. For my own convenience I prefer the latter, obtained by using an ordinary forehead concave mirror, with a twenty-inch focus, because it is more manageable, and can be directed on any desired point with facility. With the woman in position and light arranged, the instrument is taken in the right hand and held firmly but gently, the index-finger being placed in front of the posterior blade in its concavity and carried well down to its point, to hold the lateral blades, facilitate introduction, and protect the anterior wall of the vagina. The labia being well separated with the left hand, introduction is easily accomplished. But, to insure a steady and satisfactory

Fig. 1.

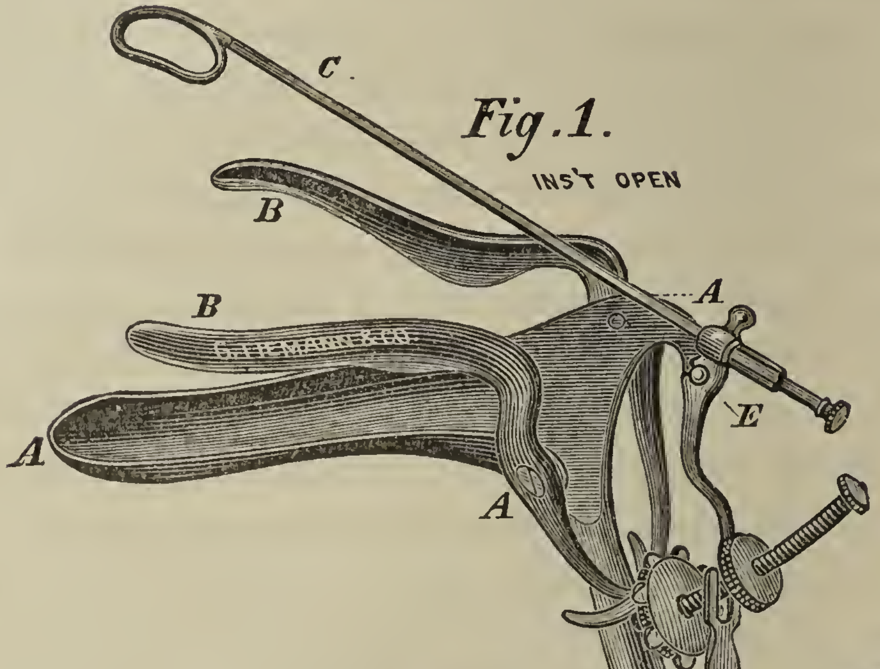
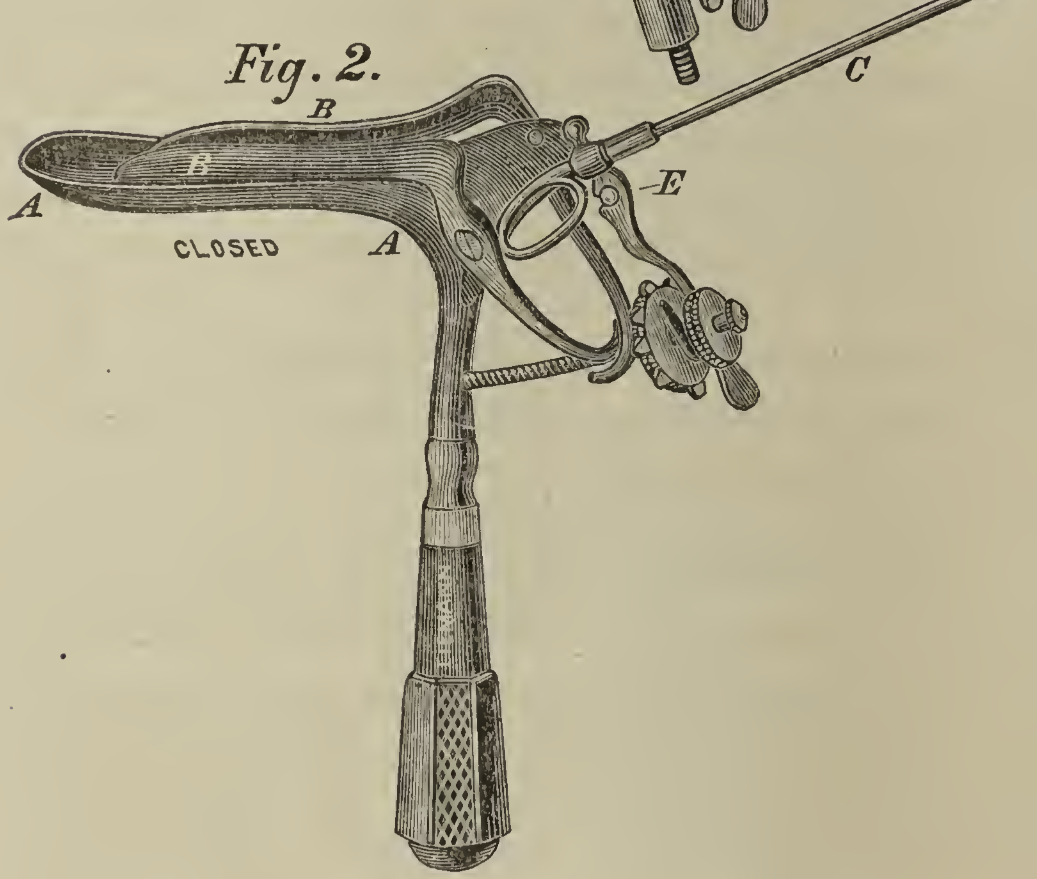


Fig. 2.



position, the instrument must be *crowded well up into the vagina,* sufficiently so that the lateral blades can be opened beyond the sphincter. The handle is now taken in the left hand, and the posterior blade drawn well back against the perinæum below, above against the posterior wall of the vagina, on which traction is made, and held there while the lower screw, which throws out the lateral blades, is run down. On account of the extreme sensibility of the parts, great care should be exercised in running down this screw, and a slight rocking movement may be made with the left hand to assist the adaptation of the instrument to the vagina. A careful but thorough performance of this part of the introduction is necessary. While the left hand is still steadily holding it back by the handle, with the right hand the depressor is pushed forward and upward along the anterior vaginal wall into place, either lifting the uterus on its rounded end or letting it fall, as need be, until a good and desirable central position for that organ is obtained. Now the upper screw of the standard is run down, and the instrument is *in situ.* Not only have you now the speculum in position with the womb presenting in the centre of the field, but that organ is fixed in that position, and may be kept so for any reasonable length of time, which is of the greatest convenience to the operator, whether for study or treatment.

If the object of the examination is to study the vagina rather than the uterus, then the position of the patient must be changed as follows: the hips and knees should be raised several inches higher than in the position as given. This throws the abdominal viscera forward, and makes traction on the vagina externally through its surrounding connective tissues, the instrument then distending that canal from within, discloses its entire mucous surface, except the small portion covered by the blades, in a most complete and remarkable manner.

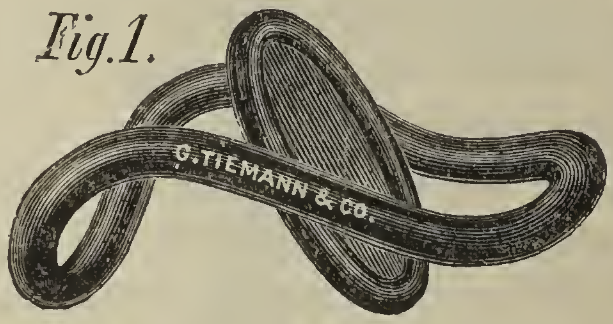
When an operating instrument is required, the depressor can be removed, as stated. If it is desirable to examine the patient on the back, the handle may be detached, and the instrument used in that position. In removing the instrument some care is necessary. The upper screw is entirely loosened, and the depressor is drawn out, then the lower screw is only partly run up, the side blades being left slightly distended while withdrawal is made.

In conclusion, I will say I have such confidence in this speculum, every part of which has been tested as to its shape or bearing, and found to be right, that I believe it will take the place of every other instrument of its kind in the hands of any or every practitioner who will give the time and pains necessary to learn to manipulate it.

Art. IV.—*A New Pessary.* By A. T. Woodward, M. D., Brandon, Vermont.

As no style of anteversion or retroversion pessary, now in general use, has as yet fulfilled in every instance the purpose for which it was designed, and as I believe I have constructed one that will sometimes do so where all of the present varieties have failed, I am induced to offer it to the profession. By consulting Fig. 1, it will be seen that a crossbar has been extended through the centre of the short diameter of the instrument known as Smith's modification of Hodge's retroversion pessary. This divides the single fenestra of that instrument into two fenestræ.

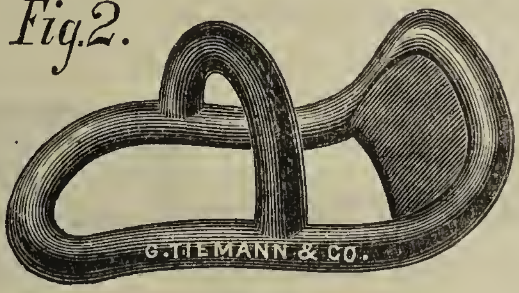
Fig. 1.



The object of the crossbar is solely to prevent the uterus from turning upon its short diameter, or axis of suspension, whereby retroversion is accomplished. The Hodge-Smith pessary, as is well known, keeps its place well up in the pelvis, by virtue of its breadth, or the width of the fenestra: consequently, whenever a medium-sized pessary is required, the only thing about it that offers any obstacle to the uterus, in its tendency backward, is the posterior crest of the instrument; whereas the crossbar attachment, coming under, or in front of the cervix, offers an opposing force that no backward tendency of the uterus can possibly overcome. The instrument is easily introduced when the patient is on her knees and elbows.

Fig. 2 represents an anteversion pessary, made like the retroversion pessary, of soft rubber. This instrument, like the former one, has been modeled upon the Hodge-Smith pessary.

Fig. 2.

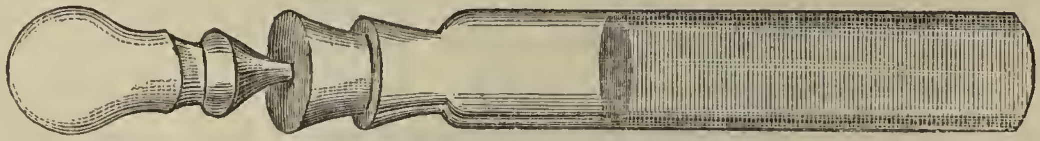


A crossbar in this instance is arched over the centre of the fenestra, through its short diameter. Being made of soft and pliable material, the arched crossbar can be sprung forward to facilitate its introduction; and, for the same reason, it would seem to be safer than Thomas's, as the pliable nature of the material from which it is constructed enables the instrument to conform, in no slight degree, to the surrounding parts.

ART. V.—*A New Hypodermic Injector.* By EDGAR HOLDEN, M. D., Newark, N. J.

THE following communication may be of sufficient interest to warrant publication:

After much annoyance from hypodermic syringes, owing to the inequalities of the tube and the drying of the piston, and finally cutting my fingers in the attempt to make one of the most approved patterns work, it occurred to me that Nature did not supply her bees, and wasps, and serpents with syringes for their hypodermic injections; and I accordingly cut down a needle to the eighth of an inch, and slipped over the top a little bulb from a medicine-dropper, and in this imitation of Nature found the simplest of hypodermics. To stick this short instrument into the cork of the vial with the liquid to be used perfected the arrangement. The availability of this at once became apparent for a purpose of great importance to any physician in large practice, as any desired number of minims may be sucked up and left ready for the nurse to use at given hours, without the necessity of late and extra visits. Pinching up the skin in large fold, it is simply to be plunged to the hilt, and the solution passes deeply below the cellular tissue, and the abscesses so commonly following a too superficial injection are avoided.



The Complete Hypodermic Injector, which may be inclosed in a cylindrical metal box.

Advantages.—Not liable to be out of order at a critical moment; portable, durable, cheap; may be used by the nurse or patient with safety; can be used without making the patient nervous by preparation, being so small as to be hidden by the finger.

Shepard & Dudley, of New York, have prepared a set, consisting of bulbs of various capacities, and needles of varying length, the box containing three bulbs and three needles, and a bottle. It might be added that this direct plunge of the needle is almost painless.

Clinical Records from Private and Hospital Practice.

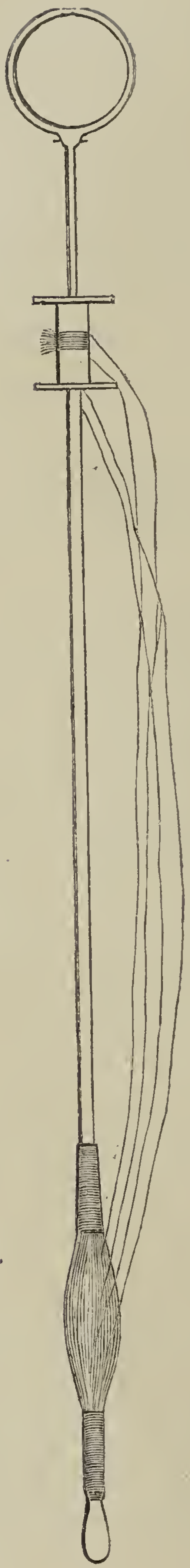
I.—*Removal of a Plate of Pewter from the Œsophagus.* By F. A. Stanford, M. D., Columbus, Ga.

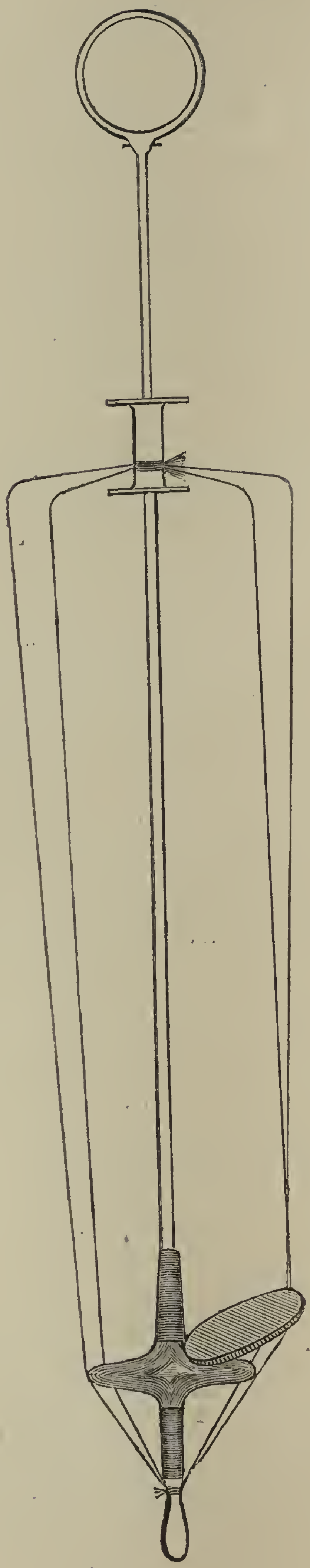
Joel Turner, aged about fourteen years, swallowed a piece of pewter on February 19th, 1876. Dr. C. D. Hurt, an intelligent physician of Hurtville, Alabama, was immediately called upon to give relief in the case, who, after exhausting many ingenious expedients without avail, accompanied the young man to the city for my assistance.

Monday morning, February 20th, he presented himself to me. His appearance indicated very little distress. His anxiety for relief was great. He had swallowed no food since the accident, and but little water. His breathing was not interrupted. From the description given me of the foreign body, its size and position in the œsophagus, my greatest fear was that, in my attempt at its extraction, I might dislodge it from its place of impaction, and either push it forward, or by its own weight cause it to fall into the stomach—an event I regarded as fraught with the greatest danger to his health and life. An effort at his relief had, however, to be made. Taking the umbrella probang, and guided by the posterior wall of the pharynx and œsophagus, I passed it without difficulty downward to about the distance of seven inches, when I came in contact with the foreign body.

With careful and gentle manipulation, pressing forward cautiously, I soon felt that the probang had passed the obstruction, and I continued it downward into the stomach. Feeling confident of success, I expanded the bristles to the full umbrella size and began to withdraw. Arriving in contact with the pewter, after a little pause, and with an increase of pulling force, what were my surprise and chagrin when I felt the softened bristles fold backward upon themselves, and I withdrew the probang leaving the body still in the throat. Recognizing at a glance the cause of failure, I immediately had recourse to my surgeon's silk, and, selecting four ligatures of this, arranged for a renewal of attack. Tieing one after another of these ligatures to the distal extremity of the probang, and then passing each separately through the extreme outer margin of the bristles, expanded to full umbrella size, then bringing them upward and tieing fast to the spool slide, I felt that I was prepared for a more successful effort.

I again passed the probang as before down and beyond the plate. This well accomplished, I expanded the umbrella, and, drawing hard upon the four ligatures at the same time, made a complete revolution of the probang, hoping by that means to surround the pewter plate, get it within at least one or more of the ligatures, and, in this way making the expanded umbrella its base of support, dislodge and withdraw it. Noth-





ing ever worked better. Everything being ready, I explained to my assistants (Dr. Hurt and Mr. Turner, an uncle of the patient) that they should hold, each one, two of the ligatures perfectly tight throughout the process of withdrawal. Fully expanding the umbrella myself I began the process of withdrawal. The ligatures being kept fully tight by my assistants, we soon had the satisfaction of withdrawing the plate, to the infinite joy and satisfaction of the young man.

The annexed diagram will exhibit fully the *modus operandi;* and I would respectfully suggest the ligatures as an important addition to the other intrinsic merits of the probang for the removal of foreign bodies.

The pewter plate removed is one inch and three-eighths in diameter, one-fourth of an inch in thickness, and weighs one ounce and one-fourth; it is circular in form, having been melted and poured into the top of an ordinary wooden match-box.

II.—*A Case of Absence or Non-development of both Uterus and Ovaries.* By A. H. Goelet, M. D., New York.

The following case will, I think, prove of interest to the profession, presenting as it does congenital deficiencies which are rarely met with:

Miss B., aged nineteen years, consulted me on the 12th of February, 1876. She had never menstruated, and complained of constant severe headache, and of bleeding from the nose. The headache she has had as long as she can remember; the epistaxis, off and on, for the last five or six years, but not with any regularity. Otherwise her health is very good. Within the past three or four years she has consulted several physicians, who made unsuccessful efforts to bring on her "periods." Her mother has also tried the usual domestic remedies, but likewise without success.

Her history led me to suspect some congenital malformation, and I therefore advised an examination, to which she reluctantly consented. The points revealed were these:

1. The *pudenda* was entirely devoid of hair.
2. The *vagina* was a mere *cul-de-sac*, not more than two

inches in length, and there was no evidence of a uterus at its extremity.

3. There was *no uterus* found after a thorough exploration of the pelvis. By conjoined manipulation—the index-finger of the one hand in the rectum and the other hand on the hypogastrium—the excavation of the pelvis could be explored with ease, the patient being very thin; and not even a rudimentary organ could be detected.

4. I next examined for the *mammæ*, and found them wholly undeveloped; and

5. She has never experienced any *aphrodisiac sensations.*

Now, judging from her history and what was revealed by the examination, there is not only absence of the uterus, but also absence of the ovaries, or they are in an undeveloped state. There being no effort at menstruation (the epistaxis signifying nothing, since it does not occur periodically), no venereal appetite, and no development of the mammæ and pudenda, this conclusion would seem to be warranted.

I ordered a prescription of bromide of potassium and hydrate of chloral for the headache, and this, as I afterward ascertained, afforded some little relief.

Such cases as the above are extremely rare, though cases of the absence of the uterus only are more frequently met with. A somewhat similar case was reported to the Royal Academy of Medicine in 1826 by Dr. Renauldin, which is the only case of the kind I have seen recorded. A woman died at the age of fifty-two years. She had never menstruated nor experienced any venereal passions, and the breasts were undeveloped. At the autopsy only a cervix uteri the size of a writing-quill was found, but there was no uterus proper, and the ovaries showed very little development.

III.—*Cases of Diphtheria. Hot Solution of Caustic Potash topically applied in Six Cases of pretty extensive Diphtheritic Exudation covering the Tonsils, Uvula, and Fauces.*

By F. P. Mann, M.D., Brooklyn.

I have recently employed in diphtheria liquor potassæ, heated to about 150°, or as hot as it could be taken into the mouth without pain. This was applied to the exudation by means of an ordinary probang, covered with a thin layer of cotton wool, the cotton being renewed after each application to avoid reinoculation by germinal matter possibly adhering to the cotton, and for the sake of cleanliness. The solution was applied three times during the day, and in the interval the patient, if old enough, was made to gargle the throat every hour with liquor potassæ diluted with an equal quantity of hot water, or, where the mouth was unusually sensitive, one part to three of water, at as high a temperature as could be borne without pain. Where special objection was made to the use of the probang, the gargle alone was employed. The ages of the patients ranged from six to forty-five years. In every case after the second or third day I found the false membrane either detached, or easily separated from the mucous surface by the probang, sometimes aided by common dressing forceps. The deeply-inflamed mucous membrane, thus fairly exposed, was then treated by use of the following gargle: Hydrarg. bichloridi, gr. iii.; acid. hydroch., ♏ x.; aqua, ℥ vi.; syrup. limon., ℥ ii. This was continued until the inflammation was controlled, and all attempts at renewal of diphtheritic deposit suppressed, when the common sulph. zinc. gargle, gr. xx. to the oz., with the addition of a little spirit. camph., completed the local treatment. The internal remedies used were three-grain doses quiniæ sulph. in solution every four hours, with or without tinct. ferri chlorid. The cases were accompanied by the usual constitutional symptoms, and terminated favorably. It is useless to theorize upon the etiology of diphtheria in the absence of demonstrable facts. Microscopists agree that there are no positively distinctive characteristics which appertain to diphtheritic deposit; nevertheless, there is present in all cases a more or less transparent and very viscid substance which presents under a $\frac{1}{4}$ objective a striated appearance, entangling mucous corpuscles and scaly epithelium from the mouth, and *transparent granular*, *round or oval particles*, which bear a certain resemblance to the germinal matter liberated from cells of penicillium glaucum. Now, it would appear that the potash dissolves, perhaps decomposes, the viscid substances which glue, so to speak, the diphtheritic exudation to the mucous membrane, and may also play the part of nidus for the reception of germinal matter. Another point that would seem to favor this view is that the secretion from the mouth and fauces in the commencement of the disease is uniformly abnormally acid; this I have proved by careful observation of many cases. It is also probable that the solution destroys the germs themselves, as it immediately kills the germs of oïdium albicans and penicillium, which I have witnessed in repeated experiments made after planting the above germs upon various substances under favorable conditions for rapid propagation. However this may be, the development of false membrane ceases after a thorough application of the alkaline solution. In the case of very young children the great difficulty experienced in making any application to the mouth or fauces seriously interferes with the success of any treatment. As a prophylactic, I feel certain that a weaker solution, with or without the addition of a suitable quantity of salicylic acid, will be found worth a fair trial.

Notes of Hospital Practice.

BELLEVUE HOSPITAL.

Result of Aspiration for the Relief of Tympanites.—The case of the negro which was reported in this department of last month's JOURNAL resulted in death about three days after aspiration. At the *post-mortem* examination a perforation of the ileum, about one-third of an inch in diameter, was discovered. No trace of the punctures of the aspirator needle could be made out.

Comminuted Fracture of Tibia and Fibula.—A patient was taken into hospital suffering from a comminuted fracture of the tibia and fibula. The injury was the result of being thrown from a horse. The fragments of the bones were found so movable that it was not considered wise to use the plaster dressing. The limb was therefore placed in a fracture-box, and extension applied to the box. After consolidation had taken place to a slight extent, a plaster bandage was put on, and the patient allowed to get about. A good result was obtained after the usual time.

Compound Fracture of Radius and Ulna.—A case of compound fracture of the radius and ulna was admitted to the wards, and on first inspection amputation seemed indicated. By the proper adaptation of splints a good result was obtained, and no permanent injury resulted from the extensive lacerations which existed.

MOUNT SINAI HOSPITAL.

Unilateral Epilepsy.—A patient has been for a length of time under observation at this hospital suffering from unilateral convulsions of an epileptic character. The history of the case is to the effect that six years ago an attack of rheumatism occurred, but beyond this no special disease could be made out. He is forty-three years of age, and has been in hospital for nine months. Three months ago the first signs of epilepsy were ushered in by attacks of unconsciousness coming on. These at first lasted for about a quarter of an hour, but by degrees the time lengthened to two or three hours. Four weeks ago it was found that, in the unconscious state, the diaphragm was in a state of clonic spasm. Shortly afterward, unilateral spasm of a tonic character was seen on the right side of the body, giving rise to pleurosthotonos. After the seizure was over, the patient regained his usual state, and continued so till his next attack.

These invasions were characterized by irregular intervals, and lasted from a quarter of an hour to two hours. On inspecting the pupils they were found to be slightly contracted, but not unequally so. The patient did not describe the aura. He said the seizure came on suddenly. There was no pain in the head. No benefit was derived from therapeutic measures, although different agents were employed.

Attempts to produce Abortion.—A patient entered hospital stating that she suffered from pain in her bladder. On examining that organ it was found that several pieces of glass had been inserted through the urethra. On questioning the patient closely she said that she wished to produce an abortion on herself, and instead of introducing the glass into the cervix she had by mistake put it into the bladder. There was found also in the bladder a portion of a nozzle of a syringe.

Foreign Bodies in the Ear.—In the removal of foreign bodies from the ears of children it is specially important to have recourse to an anæsthetic. In one case a child had introduced a piece of gravel into the meatus, and in the attempt at removal had driven it farther and farther in. The impaction was so great that a strong current of water had no effect on it. Previous to the use of the anæsthetic any attempts at removal were accompanied by the struggles of the child. After being thoroughly anæsthetized a small forceps was introduced, and by strong traction the pebble was removed. Had the attempt been persevered in without the aid of the anæsthetic, injury would probably have resulted to the middle ear, inasmuch as the child was absolutely uncontrollable.

ST. FRANCIS'S HOSPITAL.

Treatment of Syphilitic Stricture of Rectum by Means of Pressure and the Local Application of Mercurial Ointment; Failure of Cure by Incision.—Dr. N. G. McMaster, of this institution, has employed a novel modification of the treatment of syphilitic stricture of the rectum by dilatation. The success which attended its use would indicate that it might be extended to cases in which there was no syphilitic taint.

The history of the case was as follows: A man aged thirty-three contracted syphilis two years previous to admission. Fifteen months after the initial sore he noticed that difficulty was experienced in passing his fæces. This increased for nine or ten months, when he became a patient in the hospital. On examination it was noticed that the stricture was so marked that its calibre was barely sufficient to admit a bougie corresponding in size to an ordinary lead-pencil. The stricture was situated just within the sphincter, and extended up for an inch and a half. Incision was the first method of treatment employed, and the immediate result was such as to allow the introduction of the fore and middle finger. Following the operation, excessive hæmorrhage took place into the rectum and colon. Eventually, by means of compresses of lint saturated with persulphate of iron, this was controlled. Four weeks after the incision the stricture was so far restored as to allow only the introduction of the fore-finger, and two weeks later it had returned to its original size.

The successful method referred to consisted in shaping a piece of wood to fit the stricture closely, and allow of its being retained in position by means of a perineal band. The wood was then covered neatly with flannel, and saturated with mercurial ointment. At the end of twenty-four hours it was withdrawn, and another coating of flannel sewed on, and again introduced as before. By means of the daily addition of a thickness of flannel it was found, at the end of two weeks, that the stricture was large enough to allow of the introduction of the index-finger. It was noticed, also, that the induration was much less. The same principle was continued for five weeks, when the calibre of the stricture was nearly an inch in diameter. At that time the patient had so far recovered as to be able to leave hospital. He was seen subsequently, however, and the stricture measured. It was then found to be an inch and three-eighths in diameter. The points of interest in the plan of treatment consist in the fact that the wooden plug covered with flannel was worn continually. For the first twenty-four hours there was slight discomfort, but after that no special inconvenience was complained of by the patient. The economy of the appliance is an important item, particularly in the cases of dispensary and poor patients. There were no evidences of salivation following the use of the mercurial. It was considered judicious, however, to keep the absorbed mercury in an active state by the internal administration of ordinary doses of the iodide of potassium.

Cystitis; Treatment by Dilatation of the Urethra.—A patient suffered from vesico-vaginal fistula, the result of parturition. She had been under treatment in the Woman's Hospital, and by means of an operation the fistula was closed. After the closure of the fistula, cystitis, which was present before, became very much worse, and for its treatment she entered the wards. The treatment consisted in the dilatation of the urethra sufficiently to admit of the introduction of the finger. After this had been performed there was an amelioration of the symptoms. It was found unnecessary to have recourse to the dilatation more than once.

Dislocation of the Malar Bone.—A case of dislocation of the malar bone is under observation at the present time, and is of interest from the very great rarity of its occurrence. The dislocation was caused by direct injury, resulting from a fall, and is of a compound character. The wound exists external to the outer canthus of the eye, and it would seem that some projecting body, striking the patient in his descent, was the immediate cause of the injury. On passing the finger into the mouth it is noticed that the lower angle of the bone rests on the outer side of the molar teeth. By making pressure it can be apparently replaced, but so far no attempt at reduction has been considered advisable.

Proceedings of Societies.

THE INTERNATIONAL MEDICAL CONGRESS.

First Day.

THE members of this Congress, consisting of delegates from a large number of foreign medical societies, and from the principal medical organizations in the United States, met on Monday, September 4th, in the hall of the University of Pennsylvania, Philadelphia, Prof. Samuel D. Gross occupying the chair. There were present, including delegates and invited guests, about four hundred and fifty gentlemen.

After prayer by the Right Rev. Bishop Stevens, of Pennsylvania, Prof. Gross delivered the address of welcome, to the eloquence and appropriateness of which no mere abstract can do justice. He spoke of the extraordinary circumstances under which the meeting was held, and of the gratification it afforded him, in the name of the entire medical profession of America, to extend a hearty welcome to the distinguished foreigners who had come from distant regions to do their share of work for the common good in the present reunion. He trusted that the forthcoming discourses would prove of interest by showing that satisfactory progress had been made in this country in medical science.

The appointment by the President of the following Committee on Nominations was announced, and confirmed by the Congress:

Mr. William Adams, of London; Prof. Engelsted, of Copenhagen; Prof. Hüter, of Greifswalde; Prof. Rudnew, of St. Petersburg; Dr. J. A. Grant, of Ottawa, Canada; Dr. Henry I. Bowditch, of Boston; Prof. L. A. Dugas, of Augusta, Georgia; Prof. J. T. Hodgen, of St. Louis; Prof. Christopher Johnston, of Baltimore; Prof. Austin Flint, Sr., of New York; Dr. W. S. W. Ruschenberger, U. S. Navy; Dr. Joseph R. Smith, U. S. Army; Dr. Edwin M. Snow, of Providence, Rhode Island.

ADDRESS ON MEDICINE.

Prof. Austin Flint then delivered the address on "Medicine," for the following abstract of which we are indebted to the *Boston Medical and Surgical Journal:*

Dr. Flint recalled to the minds of his audience that one hundred years ago there were two embryonic medical schools in America, one in Philadelphia and one in New York. A few years later we were separated from the mother-country by Cæsarean section, and plunged into war. This war called out the medical energies of the colonies, but arrested medical teaching for some years. The leading medical minds were then principally in Philadelphia, New York, and Boston. After the war, Franklin interested himself in founding the Philadelphia Medical College, the meetings of the founders being held at his house until within two months of his death. In 1791 this school was merged into the medical department of the University of Pennsylvania. This latter school was modeled after the school of Edinburgh, and that after the Leyden school. All the professors of the Philadelphia school had been educated in Edinburgh. Rush was then the leading American medical mind. He wrote original treatises and edited foreign works, especially Cullen's work, which was widely read. This shows the activity of medicine at this period. The war, the great need of medical men, and the return of the many who had studied abroad, all combined to force the growth of medicine in America.

Philadelphia inaugurated medical teaching in this country. She was then and is now the great medical centre, and still has no compeer, in literature, teaching, or physicians. She has had a great influence on other cities of the Union. If this influence ceases in the future it will not be because she has weakened, but because of the emulation awakened by her example. It is fitting, then, that the congress should meet here.

At the end of the first quarter of the nineteenth century there were twenty medical schools and two thousand students in the United States.

Six of these schools were metropolitan, in Philadelphia, New York, and Boston; fourteen of them were provincial. The latter met the needs of students unable to bear the expense of city tuition. They developed inquiry among physicians in their neighborhood and incited them to become teachers. Thus their influence was good. There was great jealousy among schools at this time. The first two graduates from Harvard met great opposition, and received their diplomas only through the influence of Dr. John Warren.

At this period there were twenty medical journals. Even now their number is only doubled. Locally they are generally in the interest of some particular school, but they are useful in distributing medical intelligence, and journals relatively obscure have been the media of publication of papers of great value.

It may be said of the profession in America that they have ever been fraternal. May we not claim for medicine that it has raised physicians above the influence of politics? Even the late war did not disturb the strong feeling of friendship between Northern and Southern medical men.

Referring to important agencies in the growth of medicine, Dr. Flint mentioned Cullen as the strongest pathologist at the close of the last century. Following him came Rush, then Good, each having an original system; then Brown, of Edinburgh, the opponent of Cullen. There was at this time no leading system. Rush, Cullen, and Good were the predominant minds, but neither was followed exclusively. In 1801 Valentine Seaman, of New York, began vaccination. In 1817 the "Pharmacopœia" was projected, and it was published in 1820. In 1846 anæsthetics were first used in Boston, and afterward introduced into England and the Continent.

Dr. Flint then referred to the many foreign books translated and edited by Americans which have aided medicine in America. In 1829 the first native work on pathological anatomy was published by Horner, and later Gross's work appeared. They were the pioneers. J. B. S. Jackson, unfortunately, if not blamably, became satisfied with his position as professor in a leading school and curator of a museum rich in specimens. He might have been more permanently identified with pathology in this and in every other country.

Dr. Flint next referred to auscultation, making honorable mention of James Jackson in connection with the discovery of the significance of prolonged expiration; also mentioning Dr. Holmes as having taken the Boylston prize for an essay on auscultation.

In the diagnosis of heart-diseases American physicians were aided by the works of Hope, André, Stokes, and others. Bowditch and Gerhard also made us familiar with this science. Referring to Bright's clinical reports, Dr. Flint said that Bright could not have anticipated the advance in the diagnosis of renal disease to which we have attained in the present quarter of the century.

In the second quarter of the nineteenth century Hayes's *American Journal of the Medical Sciences* first appeared, promising translations of all important foreign medical intelligence, and valuable original articles. It has kept and still keeps the promise, and is the oldest medical publication in this country, having also the largest circulation of any similar publication in the world. Dr. Flint then made flattering mention of the earnest and prolonged experiments of Beaumont upon St.-Martin.

Broussais's works, translated by Hays and Griffiths, won many disciples to Broussaisism. This was the last of the legitimate '*isms*, and has given way to illegitimate '*pathies*. Dr. Flint next mentioned the work of Cook, who believed congestion of the liver to be the *fons et origo* of all disease. Alluding to the Kentucky practice of giving huge doses of calomel in affections of the liver, the speaker told the story of a yeoman, who, while ploughing his field, came upon a quantity of metallic mercury and supposed he had struck a mine of wealth, but became quite chopfallen when told that he had simply ploughed up the spot formerly used as the burial-place of patients who had been subjected to mercurial treatment!

The powerful influence and the present worth of the works of Louis and his new departure in methods of study were mentioned.

Jacob Bigelow in 1835 struck the key-note of change in the treatment of disease in his work on self-limiting diseases. Polypharmacy and heroic measures fell into disrepute. Physicians became more reserved, and humbly changed to servants of Nature. In 1833 appeared the "United States Dispensatory" of Wood and Bache. In 1847 the American Medical Association was inaugurated, for the protection of the profession and for the advancement of knowledge. Allusion was made to the valuable paper of Nathan Smith on typhus. At this time the non-identity of eruptive fevers was accepted as a fact.

In 1846 Meredith Clymer was the first to discover and describe relapsing fever. Dickson and Drake announced their belief in the conjoined action of different morbid influences at the same time in the same person. John Ware inaugurated the numerical method in the use of opium. The large use of opium in peritonitis was referred to as the American method of treatment of this disease. Bowditch in this quarter of the century invented the operation of paracentesis thoracis, and, although we now say aspiration in place of suction, using complicated foreign instruments in this procedure, the operation in its origin is American.

Dr. Flint then read the long list of American authors who wrote during the fourscore years following the Declaration of Independence, and asked, "Was not the advance of literature in this country in less than eighty years remarkable?"

Coming down to the last quarter of the century the speaker alluded to some of the characteristics of progress in medical science in America, the advance in histology and pathology, the use of the microscope (referring here to the brilliant paper on the microscope of Burnett in 1851), the great influence of German medical literature in the direction of pathology, the fondness of Americans for foreign schools, and the unwise prejudice of some persons against this inclination to study in European schools. We should be humble in our relations with the schools of Europe, yet no student from abroad, who has remained the mere satellite of his foreign master, has ever attained distinction.

Reference was then made to the injustice of the non-existence of a copyright law. Republication of French works in translation has become unnecessary because of the present general knowledge of the original. A similar knowledge of the German language it is hoped will soon be as general.

Our literature has been fairly treated and well received abroad. Our works are practical in character because we are young. The leading characteristic of our medical schools is practicality. The responsibility for the character of our profession rests upon the teachers in our schools. The public is practically unprotected by law against practitioners who have no diplomas. We have large schools. They are an indication of progress. Let us try to correct defects, let us improve our methods of teaching, but avoid wholesale condemnation of what has been done. Of our code of ethics Dr. Flint asked what it is and what it does. It has remained unaltered during the past twenty-five years. This reflects honor on the profession. We may claim that the majority of physicians have been honorable. In no other country is the dividing line between illegitimate and legitimate practitioners more sharply drawn than in ours, because in no other country do medical men occupy so high a social grade.

The history of American medicine contains much of which we may be proud. Need we doubt that the spirit thus far shown will lead to a glorious destiny?

The following report was then presented by the Committee on Nominations for officers of the Congress:

President, Prof. Samuel D. Gross.

Vice-Presidents, Prof. Paul F. Eve, of Tennessee; Mr. Joliffe Tuffnell, of Ireland; Drs. W. L. Atlee, of Pennsylvania; C. Lange, of Denmark; J. B. Johnson, of Missouri; F. Semeleder, of Austria; Dr. Hunter McGuire, of Virginia; Dr. Johan Hjort, of Norway; Dr. T. G. Richardson, of Louisiana; Dr. Wm. H. Hingston, of Canada; Dr. J. P. White, of New York; Dr. H. Miyake, of Japan; Prof. Nathan R. Smith, of Maryland; Prof. Rudnew, of Russia; Dr. Joseph M. Toner, of Washington; Prof. Hüter, of Pomerania; Dr. G. L. Collins, of Rhode Island; Dr. R. F. Hudson, of Australia; Dr. Henry Gibbons, of California; Dr. P. Debasieux, of Belgium; Dr. N. S. Davis, of Illinois; Mr. William Adams, of England; Dr. L. A. Dugas, of Georgia; Prof. A. R. Simpson, of Scotland; Dr. J. K. Bartlett, of Wisconsin.

Honorary Vice-Presidents, Surgeon-General J. K. Barnes, U. S. Army; Surgeon-General Joseph Beale, U. S. Navy.

Treasurer, Dr. Casper Wister, of Pennsylvania.

Secretary-General, Dr. I. Minis Hays, of Pennsylvania.

Secretaries of Meetings, Drs. W. B. Atkinson, Richard J. Dunglison, R. A. Cleemann, W. W. Keen, R. M. Bertelot.

OFFICERS OF SECTIONS.

MEDICINE.—Chairman, Alfred Stillé, M. D., Philadelphia; Vice-Chairmen, R. P. Howard, M. D., Canada; J. J. Woodward, M. D., U. S. A.; Secretary, J. Ewing Mears, M. D., Philadelphia.

BIOLOGY.—Chairman, John C. Dalton, M. D., New York; Vice-Chairmen, Austin Flint, Jr., M. D., New York; F. W. Campbell, M. D., Canada; Secretary, James Tyson, M. D., Philadelphia.

SURGERY.—Chairman, Prof. Joseph Lister, Edinburgh;

Vice-Chairmen, J. A. Grant, M. D., Canada; John Ashhurst, Jr., M. D., Philadelphia; Secretary, John H. Packard, M. D., Philadelphia.

Dermatology and Syphilology.—Chairman, James C. White, M. D., Boston; Vice-Chairmen, S. Engelsted, M. D., Copenhagen; Edward Shippen, M. D., U. S. N.; Secretary, A. Van Harlingen, M. D., Philadelphia.

Obstetrics.—Chairman, Robert Barnes, M. D., London; Vice-Chairmen, Prof. Alexander R. Simpson, Edinburgh; W. H. Byford, M. D., Illinois; Secretary, William Goodell, M. D., Philadelphia.

Ophthalmology.—Chairman, R. Brudenell Carter, F. R. C. S., London; Vice-Chairmen, William Thomson, M. D., Philadelphia; Henry W. Williams, M. D., Boston; Secretary, John Green, M. D., St. Louis.

Otology.—Chairman, Clarence J. Blake, M. D., Boston; Vice-Chairman, A. H. Buck, M. D., New York; Secretary, H. N. Spencer, M. D., St. Louis.

Sanitary Science.—Chairman, Stephen Smith, M. D., New York; Vice-Chairman, J. S. Billings, M. D., U. S. A.; Secretary, E. M. Hunt, M. D., New Jersey.

Mental Diseases.—Chairman, John P. Gray, M. D., New York; Vice-Chairmen, E. Grissom, M. D., North Carolina; I. Ray, M. D., Philadelphia; Secretary, Walter Kempster, M. D., Wisconsin.

Committee on Publication.—John Ashhurst, Jr., M. D., Philadelphia; R. J. Dunglison, M. D., Philadelphia; William Goodell, M. D., Philadelphia; James H. Hutchinson, M. D., Philadelphia; Casper Wister, M. D., Philadelphia.

After a speech of thanks from Prof. Gross, the meeting adjourned.

Second Day.

The Congress met at ten o'clock, and reports from sections were in order.

On motion of Dr. N. S. Davis, it was resolved that the Congress merely accept the reports of sections and refer them for publication.

Dr. Austin Flint, of New York, offered a preamble and the following resolutions, which were adopted:

Resolved, 1. That the members of this International Medical Congress regard with great interest the contribution of a national medical library in the city of Washington, and respectfully petition the Congress of the United States to provide for additions to the number of volumes and periodical publications until the library is made as complete as possible.

2. That in view of the necessity of what is known as a *catalogue raisonné* in order to render the library properly available for reference, this International Medical Congress urge the importance of an early completion and publication of such a catalogue.

3. That the specimen fasciculus of the catalogue, which is stated to be nearly ready for the press, affords evidence of great labor and care, and the arrangements for convenience of reference, it is believed, will prove in all respects satisfactory.

4. That those of the delegates to this International Medical Congress who are citizens of the United States, and other members of the medical profession in this country, are urged individually to exert their influence to secure the enlargement of the library and the speedy publication of the catalogue.

PUBLIC HYGIENE.

The address on "Public Hygiene" was delivered by Dr. HENRY I. BOWDITCH, of Boston. The subjoined abstract of the address is taken from the *Boston Medical and Surgical Journal:*

As a measure of vital importance to the well-being of any community, and, as such, worthy to be cheerfully and amply sustained by great cities and states, public hygiene, as we now understand that term, has till within a very short time been wofully neglected, save when, under the stimulus of some great and terrible epidemic, frantic, perhaps, but temporary efforts have been made to stay the plague by hygienic or other means. Of late, however, a new and better era seems opening to our view, and state preventive medicine affords us higher hopes for all coming time. To this last, this noblest phase of public hygiene, its very late appearance in this century, its gradual evolution out of the dogmatism and skepticism of the past, its present status, our duties relative thereto, and our golden hopes for the future, I crave your candid consideration during the brief hour I shall have the honor of addressing you. If, at the termination of my remarks, our foreign associates feel that I have given them but little information, and my countrymen find that I have said but little in praise of my country, one and all of you, I trust, will generously allow me the credit of having endeavored at least to speak the exact truth.

The past century in this country easily divides itself into three unequal epochs: first, from 1776 to 1832, the era of theory and dogmatism; second, from 1832 to 1869, or that of strict observation and of bold and often reckless skepticism; third, from 1869 to 1876, which is destined to continue and progress while the nation itself lives, the noblest and most beneficent of all, in which the state joins with the medical profession and the laity with the object of preventing disease.

The first epoch was that of medical system-making, was filled with an overweening confidence in our art, with little or no faith in the *vis medi-*

catrix naturæ. The influences which governed the opinions of medical men, and through them the world, in all that relates to sanitary matters during this period and the previous century, may be briefly sketched as follows: The illustrious Boerhaave began to enunciate his doctrines of disease at Leyden, in 1701. With him, all disease was in the fluids of the system. His doctrines held sway in America until about 1765. Following closely after him came Hoffman, Cullen, Brown, Darwin, each with his own peculiar system. Our ingenious and renowned countryman, Benjamin Rush, proclaimed his own ideas in 1790, namely, that a convulsive motion of the arteries is the proximate cause of all fever, and that there is but one fever, however different the causes may be. He was one of the most noteworthy men this century has produced, and has been called by one of his admirers the American Sydenham. During the twenty-three years of his professorship, after having been medical director of the middle department of the Continental army, he energetically and ably defended his system, as he had previously upheld Cullen's. Like his predecessor he was essentially a medical system-maker. He believed fully in heroic measures, and rather scoffed at Nature.

But Rush's theories and dogmatism were destined to fall under the influence of the fascinating theories of Broussais, which spread widely in America, but less so in New England, which had been trained more to close observation under the great masters in medicine, Dr. Holyoke, Dr. James Jackson, and others, than in other parts of the country. In or about 1832 his system began to fall in America, as it had been previously falling in Europe. With him our first epoch terminates. The whole tenor of it was not suited to the growth of anything like what we understand by state preventive medicine.

The second epoch, or that of observation and accurate recording of facts, and subsequent anlaysis of them, with an extreme confidence in Nature's power of curing disease, a corresponding skepticism in regard to the use of drugs, and finally dim presages of preventive medicine, presents characteristics precisely the reverse of the first. Louis and his numerical method stand prominent in it. The epoch in America began when Dr. Gerhard, of Philadelphia, and James Jackson, of Boston, returned to these two cities and commenced their honorable careers, full of the new ideas, and enthusiastic defenders and expounders of them. Their influence extended gradually over the whole country. Louis's doctrines, though vehemently opposed by some who had grown old under the previous epoch, were received by most young men with joy. Philosophical minds among the elder ones were charmed with the accuracy observable in Louis's numerical method, under the direct or indirect influence of which—the guiding influence of the present time, as Dr. Guy considers it—an immense number of independent observers and workers have been educated in this country and in Europe.

In addition to the specific disciples of Louis, there were three others, all men of great influence, who by their writings were powerful leaders in this epoch. I allude to Jacob Bigelow and Elisha Bartlett, of America, and John Forbes, of England. All but one of this trio are dead. Dr. Bigelow entered his eighty-ninth year last February. His life nearly spans the century, and closely unites the first and second epochs. After a most honorable and successful life as a physician and professor of the Harvard Medical School, he has been for years totally blind, and hopelessly unable to move from his bed for more than eighteen months. His influence upon this second epoch was diametrically opposed to Rush's during the first. He fully sustained the principles and methods advocated by Louis. By his writings and teachings he had immense influence over New England; directly and indirectly over the medical community of the whole country. While Bigelow was thus sapping all faith in polypharmacy, Dr. John Forbes published in the chief medical journal of that day one of the boldest avowals of the same creed, which has stood the test of time as one of the noblest protests against the drugging of the day, and an eloquent defense of the power of Nature in curing disease. Polypharmacy then and there received its most deadly blow; and such a blow was needed before state preventive medicine could become possible. Dr. Elisha Bartlett was one of the most philosophical medical men America has produced during the century, and his heart was devoted to medical reform. Though not educated under Louis, he thoroughly appreciated his methods and his writings, and proclaimed them as the dawn of a new and great era in the history of medicine. From the many chairs which he occupied as professor in different colleges, he was able to influence North, South, East, and West of our country.

Thus closes the list of men whom I deem most prominent in carrying forward the ideas underlying this second epoch. They are at least eminent illustrations of the evolution of the medical thought of that time. Their mission was chiefly destructive, or constructive only in some degree. The general tendency of their writings, so far as they bore upon medical practice, was to utter skepticism, not only in regard to the manifest absurdities of our fathers, but likewise in reference to the good things suggested by them. Although they sometimes, as we have seen, hinted at prevention of disease, they did not dream of the union of the profession with the laity in urging the noble idea of state preventive medicine in its widest scope. Their skepticism, like all skepticism, was chiefly iconoclastic; we need faith in an idea before we can build it up in actual life. Such a faith we shall see breaking out in our third and last epoch, and to this I now call your attention. But, first, let me say what I deem strictly true, and what I will sustain from my own professional experience of nearly half a century, that the medical profession as a body has hitherto taken very little interest in the ideas underlying state preventive medicine, and that we owe to the laity, rather than to the profession, the first and strongest efforts in its behalf.

The ruling idea of the third epoch, or that in which the medical profession is aided by the laity and the idea of state preventive medicine fairly inaugurated, as marked by the legal establishment of the first State board of health, is still in its infancy; but it shows by what it has already accomplished, trivial though that performance may seem at first glance to be, its inherently great nascent power. Its objects are vastly wider than those of any preceding epoch. Its destiny is as fixed as that of the steam-engine, the telegraph-wire, the locomotive, or the use of anæsthesia. I cannot foresee a time when the ideas underlying this epoch will not be held in esteem and acted upon for the benefit of mankind. Among the men who stand prominent in their relations to it are two laymen. One of them, I fear, may be but little known to most of my hearers, or even to the people of his native State. I allude to Lemuel Shattuck, Esq., of Boston. The other is Edwin Chadwick, a barrister of London, for many years known and honored by every civilized nation as one of the ablest and most earnest of sanitarians. Mr. Shattuck in 1850 presented to the Legislature of Massachusetts a most exhaustive State paper, entitled "Report of the Sanitary Commission of Massachusetts," in which are laid down all the principal ideas and modes of action which underlie the present sanitary movements in that State, and, I think I may also add, in America.

We have been largely influenced, too, by the example of Europe, especially by Parent du Chatelet, Quetelet, Pettenkofer, and Virchow, great in every department of science or of state upon which she enters; and more still by England, who has far outstripped the other countries of the world by her unbounded pecuniary sacrifices and steady improvement in legislation for the improvement of the public health. I think I may say with perfect truth that the keenness of investigating power which has been applied to the discovery, removal, and prevention of whatever may be prejudicial to the public health, as brought out under the admirable direction of Mr. Simon, by his corps of trained inspectors, is wholly unequaled, and unprecedented, I suspect, in all past time.

The number of single laborers in the field is constantly augmenting; and in this connection should be mentioned the reports of our boards of health, the publications of the United States Government, the library and museum in the Surgeon-General's department in Washington, the experience of our war, dreadful as it was, and the Sanitary and Christian Commissions and associations of the North and South, through which money and food were distributed without stint for the sick and wounded, and by which the desire to save life and promote health was instilled into the minds and hearts of our people from Maine to Texas.

The four National Quarantine Conventions, checked by the war, contributed very much to lead the public mind to the ideas prevalent at the present time, and their real successor, the American Public Health Association, has carried on the work. Of strictly professional institutions, the American Medical Association has from its organization in 1847, and especially of late, attempted to awaken an interest in public hygiene, through some of its members. It must be confessed, however, that, judging from the small numbers attending the section in hygiene, that subject seems to afford less interest than the other.

Finally, I may assert that during the past three or four years there has sprung up among the entire community a wide-spread thoughtfulness about the necessity and value of hygienic measures. In every State are there active and earnest laborers in this matter, and their number is daily increasing. It would be impossible, on this occasion, to name even a tithe of them. Some States, in their corporate capacity, have sustained these workers for the public good. But I regret to say that a large majority of the States and Territories of this Union are not sufficiently enlightened to appreciate the duty devolving on them to be careful of the health of their people.

I will now pass to a consideration of the present condition of state preventive medicine in the various States and Territories. Several months ago I sent circular letters of inquiry to two hundred and sixty-seven leading medical men known or supposed to be interested in public hygiene, representative men, in fact, residing in thirty-eight States, nine Territories, and the District of Columbia, which embrace an area of 3,603,884 square miles, and cover twenty-five degrees of latitude and fifty-seven of longitude, in the south lying almost in the tropics and at the north reaching close to the coldest inhabited portion of the globe. Replies have come from one hundred and sixty-seven, and are from every State and Territory except the Indian Territory, a reservation inhabited by Indians in various conditions from barbarism up to a low civilization.

An analysis of these replies gives the following results. First question: Does your State by its legislation show a due appreciation of the duty devolving upon a State to be careful of the health of its people?

The answers were as follows: thirty-four governments, no; eight, yes; four, indefinite; two, no reply to this question.

Among the States which have failed to show this due appreciation of their duty are the great ones of New York and Pennsylvania, which have been the chief since colonial times, and still hold that proud position. But let us who have traced the gradual evolution of the idea of state preventive medicine during the past century not wonder at this apparent neglect of public hygiene shown by the various States. Let us rather rejoice at even the small awakening of the public intellect and conscience on these matters evinced of late wherever a European civilization has any foothold.

Second question: Is the State willing to expend money—

(*a.*) To support State or local boards of health?

(*b.*) To carry out scientific investigations as to the causes of disease?

(*c.*) To repress noxious or offensive trades?

(*d.*) To prevent adulteration of food?

(*e.*) To prevent the cattle-diseases?

(*f.*) To carry on any other investigations tending to public health or to improve ill health?

The touchstone which tests the earnestness of an individual or a nation in reference to any subject is a willingness to spend money in furtherance of it. Tested by this talisman, how stands our country? Let us look at the various specifications.

To *a* the following answers were received: thirty-six, no; ten, yes; two, no reply.

Now, I contend that the legal establishment of a State board of health is the very first step toward any definite sanitary organization of a State, and the replies show what very small advances have yet been made in this country. In those States, too, which have appropriated money, the sum is small in proportion to the objects aimed at.

To *b* the answers were as follows: thirty, no; twelve, yes; five, indefinite; one, no reply. The twelve replying affirmatively are Arizona, California, Colorado, District of Columbia, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Rhode Island, and Wisconsin.

To *c* the following replies were made: twenty-six, no; fourteen, yes; seven, indefinite; one, no reply.

To *d* the answers are: twenty-three, no; sixteen, yes; seven, indefinite; two, no reply.

When public hygiene is duly thought of and state preventive medicine has full sway, the adulteration of the food of the people will be deemed one of the most heinous of crimes. Practically, it is allowed now to flourish unrestricted in the majority of the States, even in those which have laws to prevent it. Europe undoubtedly is far ahead of America in this respect.

To *e* the following replies were received: twenty-one, no; ten, yes; sixteen, indefinite; one, no reply.

To *f* the answers are these: twenty-eight, no; ten, yes; nine, indefinite; one, no reply. That is, more than one-half of our States and Territories seem unwilling, and less than a quarter claim a willingness to do so. This seems a most natural sequence to all preceding answers.

Third question: Has your State established a State board of health?

(*a.*) If so, when was it established?

(*b.*) What amount of annual appropriation is made for its support?

(*c.*) Are any occasional or extra grants made for special investigations?

(*d.*) Has the board any organized body of correspondents or inspectors throughout the State?

(*e.*) What executive powers have been given to the board with reference to local nuisances or noxious trades?

Twelve have appointed State boards of health, namely, Alabama, California, District of Columbia, Colorado, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Virginia, and Wisconsin. The sums appropriated for them are small, although for special purposes Louisiana and the District of Columbia have spent large sums. Not a single one of them has yet a *perfect* list of correspondents or inspectors.

Fourth question: Have county boards of health been established by law?

The answers are: thirty-three, no; four, yes; seven, indefinite; four, no reply.

Fifth question: Have any town boards of health been established by law?

The answers are: eight, no; fourteen, yes; twenty-two, yes, that is, by local and not State laws; one, indefinite; three, no reply.

Sixth question: Has the State passed any law leading to a thorough and definite improvement of the public health?

(*a.*) By a sanitary survey of the State.

(*b.*) By a law for the registration of births, marriages, and deaths.

(*c.*) If so, how long has it been in operation?

(*d.*) Has the registrar been able to draw from such records any law governing the public health?

(*e.*) Has any law been passed relating to the drainage of land?

(*f.*) Has any law been passed relating to the irrigation of land?

(*g.*) Has any law been passed checking the influence of rivers by levees?

(*h.*) Has any law been passed relating to the introduction of water into cities?

(*i.*) Has any law been passed relating to the prevention of contagious diseases, for example, small-pox, cholera, yellow fever, cattle-disease, etc.?

(*j.*) Has any law been passed regulating tenement-houses for the poor?

(*k.*) Has any law been passed relative to incorporating building companies for the improvement of the dwellings of the poor?

It is impossible to consider on this occasion all of these points, but I will select those which best illustrate my subject.

(*a.*) As to sanitary surveys the answers are: forty, no; none, yes; one, indefinite; seven, no reply.

(*b.*) As to registration laws the replies are as follow: sixteen, no; twenty, yes; eight, indefinite; four, no reply.

Eighteen out of the twenty answering affirmatively give also some qualifying expression as regards the character or the enforcement of the law; for example, "imperfect," "not carried out," "defective," "carried out only for certain great cities," "dead letter" in one, etc. No one can regret more than I do the necessity of stating these facts. May the sting of its severe truth stimulate us and our children to better works in the coming centuries!

During the last ten or twenty years State registrations have been carried out in a few States, although some of the larger cities have had imperfect returns for a much longer period, and Massachusetts began in 1842. The United States Government has had decennial censuses since 1790. In order to judge of their value in certain respects, we have simply to look at the strictures made on them by the superintendent of the last.

(*c.*) As to drainage of land the answers are: twenty-four, no; seven, yes; six, indefinite; eleven, no reply.

Only one-seventh report affirmatively, but I do not understand that in any case such drainage was made for sanitary objects, but rather to improve the land for agricultural purposes. In Illinois twenty thousand acres of land, comprising at least half of three counties, were drained by the State for agricultural purposes, but with the most gratifying results upon the health and characters of the settlers thereupon.

(*f.*) As to irrigation of land, the replies are: thirty-one, no; five, yes; five, indefinite; seven, no reply.

All the affirmative replies except one, Utah, state that it was done for agricultural purposes. Not one thought of health in connection with it. Even Utah probably thought more of its actual necessities than of sanitary improvement.

(*g.*) As to improvement by levees the answers are: twenty-eight, no; four, yes; five, indefinite; eleven, no reply.

Correspondents from Arkansas state that some levees have been made for agricultural purposes. and one adds significantly, "But it [that is, the levee] has improved the health of those living near the place."

(*h.*) As to water-supplies, the States and Territories stand thus: twenty-three, no; fourteen, yes; four, indefinite; seven, no reply.

Indiana and Pennsylvania have general laws on the subject. Probably all the States have permitted, either by general or by special statute, this introduction of water.

As to prevention of small-pox, the replies are: sixteen, no; twenty-one, yes; seven, indefinite; four, no reply.

As to prevention of cholera, the answers are: twenty-one, no; sixteen, yes; four, indefinite; seven, no reply.

Entirely similar reports come in regard to this disease as in regard to small-pox. All indicate a *laissez aller* method. The United States Government, through the War Department, has published a most invaluable history of cholera in this country, by which alone we can judge what would be the immense value of a central national health council, to undertake such investigations and adopt preventive measures before it becomes too late.

As to laws for prevention of yellow fever, the replies are: twenty, no; twelve, yes; ten, indefinite; six, no reply.

There seems to be a difference of opinion among my correspondents as to whether this disease is endemic or not in some of the Southern States, from which it seems fair to infer that it virtually has a permanent habitat there; but for an accurate and minute knowledge of the essential cause of yellow fever and of the means for its prevention we must look to the coming century. It has virtually disappeared from Boston, New York, and Philadelphia. May we not hope that there may be a gradual but effectual pushing back of this frightful disease until it be fairly excluded from our borders?

As to laws for the prevention of the diseases of cattle, the answers are: twenty, no; eleven, yes; five, indefinite; twelve, no reply.

Much money has been expended by Massachusetts and some of the Western States in stamping out cattle-diseases. I may refer here, too, as of great value in this connection, to the convention of cattle-dealers of the Northern States and Canada, to the Report of the Metropolitan Board of Health of New York, to the action of the Legislature of Massachusetts, and finally to the admirable Report of the United States Commissioner of Agriculture in 1871, containing papers by Prof. Gamgee and Drs. Billings and Woodward.

(*j.*) As to laws regulating tenement-houses for the poor, the replies are: thirty-three, no; four, yes; three, indefinite; eight, no reply.

(*k.*) As to laws incorporating building companies, etc., we stand: twenty-nine, no; six, yes; three, indefinite; ten, no reply.

These two nearly-allied subjects, as we have seen, have received equally little attention. I know of none more important at the present time. The fact is patent to every one that there are in every city and township in this land dwelling-places in which the poor are obliged to live which are a disgrace to modern civilization; where, in fact, it is almost impossible for the dwellers in them to grow up except to filth and crime.

Seventh question: (*a.*) Are there any well-attested facts proving that any disease formerly prevalent in your State has ceased to appear?

The replies are: twenty-five, no; nine, yes; eight, indefinite; six, no reply. Of the affirmative replies, not one presents positive proof of the statement, but some suggest a lessening of some diseases. This seems to be undoubtedly the fact in regard to malarial fevers and yellow fever.

(*b.*) Are there any well-attested facts proving that any disease formerly prevalent in the State has been eradicated by State or individual action?

The replies are: thirty-seven, no; none, yes; four, indefinite; seven, no reply. Eighth question: Are there any similar facts proving that any special disease has arisen or been generated, or been introduced into the State during the past century, which did not exist in colonial times and which now remains endemic?

The replies are as follows: twenty-seven, no; six, yes; two, indefinite; thirteen, no reply.

In all the affirmative replies opinions and not facts are given, so that I feel that there is no proof that any new disease has been introduced and become endemic here.

Ninth question: If there be any such new disease, has it been investigated by the State or by individuals?

The replies are: twenty-seven, no; six, yes; two, indefinite; thirteen, no reply. Tenth question: Has the town or city in which you reside taken any measures for the improvement of the public health?

The replies are (*a.*): By health laws: nine, no; twenty-five, yes; nine, indefinite; five, no reply. (*b.*) By special action in specific cases, three, no; twenty-five, yes; eleven, indefinite; nine, no reply.

Eleventh question: Does your town use well-water for culinary purposes?

Twelfth question: Is care taken to prevent pollution?

Thirteenth question: Do you have a water-supply from a distant lake or river?

Fourteenth question: Is care taken to prevent pollution?

For obvious reasons I include all these under one category. Of one hundred and forty-three towns, eighty-two use wells; sixty-one use rivers or lakes; forty-nine try to keep the water-supply pure; sixty-nine make no attempt to do it; and twenty-five make indefinite replies.

Fifteenth question: Have you sewers to carry off such water-supply?

The replies are: eleven, no; thirteen, yes; twenty, indefinite; four, no reply. These replies intimate very fully the primitive ideas held by the people of this country as to the necessity of carrying off water once made impure. The consequence has been, the overflowing of cesspools, with the accompanying soil-pollution and soil-dampening. Of course evil is the result.

Sixteenth question: How far are the sewer-outlets from the source of water-supply?

Upon this question it may be stated that the distances vary from what is practically zero to twenty or thirty miles, and the replies of correspondents often indicate that there has been great neglect on this point.

Seventeenth question: What is your method of disposing of sewage—house-offal—slops, or filth liable to accumulate about homesteads?

In this respect, too, there is generally in our country gross neglect.

Eighteenth question: Have any State, county, or city reports of health, or deaths, etc., been published?

From the replies of the States I learn that more than three-fourths of them have virtually ignored vital statistics during the whole century.

Nineteenth question: How many years approximately or definitely have these registration reports been published?

Owing to imperfect returns, it is impossible to give accurate statements as to this question.

Twentieth question: Has any law of development or of partial development of any disease been discovered by individual or State action, by attention to which in coming centuries we may hope to greatly lessen or destroy disease?

I proposed this question of fact, as the test-question, so to speak, of the centennial period. The replies are: thirty-nine, no; six, yes; one, indefinite; three, no reply.

ANTISEPTIC SURGERY.

Prof. Lister, of Edinburgh, then gave an exhaustive statement of his views and experience in the use of antiseptics in surgical practice, and occupied the attention of the Congress for the space of three hours.

Prof. T. G. Wormley, of Ohio, read an able address on "Medical Chemistry and Toxicology," and reviewed the progress that had been made in that department within the century.

Some valuable papers were read in the different sections, notably that of Dr. J. J. Woodward, on "Typho-Malarial Fever," in the Section on Medicine; that by Prof. Austin Flint, Jr., on the "Excretory Functions of the Liver," in the Section on Biology; and that by Prof. Byford, on "Uterine Hæmorrhage," in the Section on Obstetrics.

Third Day.

On motion of Dr. John L. Atlee, the Secretary of the Congress was instructed to send copies of Dr. Bowditch's address on "Hygiene," when printed, to the Governors of the various States, and to each province of Canada.

Dr. I. Minis Hays reported that the names of over four hundred delegates had been registered.

Dr. Edward Seguin, of New York, presented the following resolution, which was adopted:

The International Medical Congress of 1876 recognizes the advantages which would accrue from the introduction of a gradual uniformity in the multiple and heterogeneous elements of physic, as posology, nomenclatures, etc., and in the means and records of medical observation.

In consequence, the Congress appoints three delegates to the International Congress of 1877, to meet at Geneva, Switzerland, with the special duty of presenting a schedule of the means of uniformity in physic actually applicable in all countries, and another of those which could soon be made acceptable by the profession at large. Said delegates to be advised to invite the coöperation of the men who have already worked for the same cause at the International or National Medical or Pharmaceutical Congresses of Paris, Vienna, St. Petersburg, Brussels, and Buffalo.

The attention of the Congress was then occupied in receiving and disposing of the reports from the sections.

The Section on Mental Diseases reported on the question of "Responsibility of the Insane for Criminal Acts," as follows:

Resolved, That there is at present manifested a tendency to hold the insane responsible for the commission of acts. That this tendency is unjust, unphilosophical, and contrary to the teaching of pathology, which clearly points out that insanity is the expression of disease.

The Section on Sanitary Science reported on the paper on "Hospital Construction and Ventilation" read by Prof. Stephen Smith, of New York, as follows:

Resolved, That the report of Dr. Smith be recommended to the Congress for publication. While the section does not pass judgment as to the conclusions of the report, the paper contains much of an interesting and historical character.

The Section on Otology, on the question, "What is the best mode of uniform measurement of hearing?" reported by Dr. Charles H. Burnett, concludes that "the preference should be given to the voice over the watch and tuning-fork, and recommends a series of test-words."

The Section on Biology, in reference to the paper by Prof. Austin Flint, Jr., on "Excretory Functions of the Liver," reported Dr. Flint's conclusions as follows:

1. Cholesterine exists in health in the bile, the blood, and nervous matter, also in the crystalline lens, in the spleen and in the meconium.

2. Cholesterine is found for the most part in nervous matter, from which it is passed into the blood. The blood gains cholesterine in its passage through the brain. Its formation is constant, and it is always found in the blood.

3. Cholesterine is separated from the blood by the liver and is discharged with the bile. It preëxists in the blood, serves there no useful purpose, and, if it is allowed to accumulate, blood-poisoning results.

4. The bile has two separate and distinct functions, to which the so-called biliary salts, glycocholate and taurocholate of soda, contribute; these do not exist preformed in the blood, but are the products of secretion. The second function of the bile is excretion with depuration, this being accompanied by removal of cholesterine, which it obtains from the blood.

5. Normal fæces do not contain cholesterine. The latter substance is represented by stercorine, formerly called seroline, into which it becomes converted in its passage down the intestine. The conversion of cholesterine into stercorine does not, however, take place when digestion is arrested or when it is not necessary, as is shown by the presence of cholesterine in its own form in the fæces during fasting, and in the meconium.

6. The difference between the two varieties of jaundice—one mild, the other severe—is dependent upon obstruction of the bile-ducts in the one instance, with reabsorption of biliary coloring-matter, while in the other there is retention of cholesterine in the blood, in consequence of destruction of the parenchyma of the liver.

7. That condition of the blood dependent upon the presence of cholesterine in the blood I call *cholesterœmia*. It is characterized by symptoms referable to the brain, and may or may not be attended with jaundice.

8. Cholesteræmia does not occur in every disorder of the liver, because, even when a part of the organ is disordered, there may remain a portion still capable of performing the function of excreting cholesterine.

9. In case of simple jaundice, even where fæces are decolorized, there is an accumulation of cholesterine in the blood.

10. Cholesterine bears the same relations to the liver as urea does to the kidney.

The question as to whether eczema and psoriasis are local or constitutional was decided by the Section on Dermatology in favor of the constitutional character of these lesions.

The remaining sections did not report.

Address on Surgery.

Dr. Paul F. Eve, of Nashville, then delivered the address on surgery—a paper which condensed so much valuable matter in small compass that it is impossible to do it justice in an abstract. Dr. Eve began with an historical sketch of Dr. Physick, mentioning in detail his inventions, operations, and contributions to the literature of medicine and surgery. Honorable mention was made of the distinguished names in American surgery, including those of the Warrens, Dudley, Gibson, Warren Stone, Gross, Pancoast, Smyth, of New Orleans, Briggs, Mussey, Sims, Barton, Brainard, Buck, Sayre, Dugas, Daniels, and others.

Address on Medical Biography.

This address was delivered by Dr. Joseph M. Toner, and was exceedingly elaborate and complete, giving the names of every distinguished American physician of the past century, devoting the fuller biographical notices to those of national reputation, as Rush, Physick, Drake, Nathan Smith, Mussey, James Jackson, Chapman, Barton, Morgan, and John K. Mitchell.

Prof. Sayre, in the Section on Surgery, read a paper on coxalgia, and announced a practical illustration of his method of treatment at the Philadelphia Hospital.

Dr. C. H. Mastin, the reporter on the "Causes and Geographical Distribution of Calculous Disease," was unable to be present. His paper was read by Dr. H. Lenox Hodge. Dr. Mastin states that the *probable* causes at work in the formation of calculous affections are:

1. Hereditary influences, which control a diathesis.
2. Digestive troubles, induced by an excess or deficiency of proper diet.
3. Sedentary life, with indulgence in stimulating food, by which healthy nutrition and assimilation are altered to mal-assimilation and mal-excretion.
4. Climatic changes, deficiency of clothing for the proper protection of the body, and an arrest of the healthy function of the dermoid tissue.
5. Want of harmony between the great secreting and excreting organs of the system—the liver, skin, and kidneys—with catarrhal affections of the uro-poiëtic viscera favoring the formation of a colloid medium.
6. Injuries of the spinal cord, from which a proper nervous influence over the mucous membrane of the urinary organs is lost; foreign bodies introduced into the bladder, producing cystitis, with its consequent muco-purulent discharge, from which the phosphates are precipitated.

In the section relating to hereditary influences he takes the ground that gout and calculus are nearly akin, one being the result of an excess of urate of soda in the system, the other dependent upon an undue proportion of uric acid; he tries to prove that they are two different phenomena springing from one and the same root, and that consequently the causes which produce the one must influence the other.

Prof. William H. Van Buren read a valuable paper on the "Medical and Surgical Treatment of Aneurism," which was discussed by Profs. Lister, Joliffe, Tuffnell, Pancoast, Dr. Ashurst, and others.

Dr. J. J. Woodward, U. S. A., read an interesting paper detailing the labors accomplished by the medical staff of the United States Army since the close of the war. He alluded to the enormous mass of records which has as yet been only partially made use of, for want of a sufficient clerical force. Statistics were given by Dr. Woodward, of the National Medical Library and Museum, in Washington, and the plans for the future were presented in outline.

Fourth Day.

Dr. Bowditch moved the following resolution, which was adopted:

> *Whereas*, The work already accomplished by the officers connected with the Bureau of the Surgeon-General of the United States, in the establishment of a medical library, in the preparation of its ample and unique catalogue, and in the formation of an anatomical museum, from which important scientific results have already been obtained, and which have been not only a source of honor to these United States, but of value to foreign lands, and wherever science is cultivated; and—
>
> *Whereas*, This Congress learns with regret that, owing to a lack of a sufficient clerical force and of pecuniary means, not only some of the work already in progress has been suspended, but that other work of equal value cannot be undertaken, although ample materials for the same are now lying unused in the Surgeon-General's office: therefore—
>
> *Resolved*, That a committee of three be appointed to prepare a memorial to the Congress of the United States at the earliest day possible, at its next session, urging efficient support to these most important matters.
>
> *Resolved*, That it is desirable that said memorial should be signed by the President, Vice-Presidents, and permanent Secretary of this body.

Drs. Bowditch, Woodward, and Seguin, were announced as the delegates to the International Congress at Geneva, to confer on the arrangement of a plan for an international system of medicine and medical observation.

ADDRESS ON OBSTETRICS.

Prof. Theophilus Parvin, of Indiana, then delivered the address on "Obstetrics," which was an able and comprehensive document, the author having evidently taken pains to do impartial justice to his many countrymen who have distinguished themselves in this branch of medicine. The address was listened to with marked interest.

ADDRESS ON MEDICAL JURISPRUDENCE.

Prof. S. C. Chaillé, of Louisiana, delivered the address on "Medical Jurisprudence," reviewing the subject critically for the past two centuries, and bringing it down to the present time.

Fifth Day.

On motion of Dr. Davis, the following preamble and resolutions were adopted:

Whereas, This Congress marks an era in the history of medicine in the United States of America, the addresses delivered presenting a summary of progress in the various departments, which will be of great historical value in all coming time; and—

Whereas, It is highly probable that these addresses, in connection with the many very valuable papers read and discussed in the sections, will require for their early and proper publication more money than will be in the hands of the Treasurer for that purpose: therefore—

Resolved, That the Committee on Publication be authorized and instructed, as soon as practicable after the final adjournment of the Congress, to ascertain the probable cost of publishing the full Transactions in a style appropriate to the work, and, if the money on hand is found deficient, they shall address a circular letter to each American member of the Congress, asking for such additional sum, not exceeding ten dollars, from each of such members, as will supply the deficiency; and that said committee be authorized to withhold the volume or volumes, when published, from any member who may neglect or refuse to pay the additional sum required.

Resolved, That the Committee on Publication be authorized and requested to exercise a careful and liberal discretion in preparing and revising the proceedings and reported discussions, in the several sections, for publication in the Transactions of this Congress.

ADDRESS ON MENTAL HYGIENE.

This address was delivered by Dr. John P. Gray, who managed a somewhat difficult subject with considerable skill.

ADDRESS ON MEDICAL LITERATURE.

Prof. Lunsford P. Yandell, of Kentucky, read this address, which was comprehensive and of such a length as to preclude the possibility of presenting it entire in the time allotted.

Sixth Day.

Prof. Ernst announced that the whole number of delegates registered amounted to four hundred and forty-three.

The closing day of the Congress was chiefly occupied with complimentary and congratulatory resolutions, the last serious business being the address of Prof. Davis, of Chicago, on "Medical Education and Medical Institutions."

After a brief and graceful closing speech by the President, the Congress adjourned *sine die.*

AMERICAN GYNECOLOGICAL SOCIETY.

First Annual Meeting.

DR. FORDYCE BARKER, President.

Morning Session, September 13, 1876.

Flexures of the Uterus.—Dr. THOMAS ADDIS EMMET read a long and elaborate paper on the flexures of the uterus, and divided them into flexures of the cervix and of the body. He further divided cervical flexures into anterior and posterior, and flexures of the body into anterior, lateral, and posterior. The paper was of value for profound study, inasmuch as it included statistics from nearly 2,500 cases of diseases of women. The deductions *in extenso* will be found in the Proceedings of the Society; 245 cases were observed at Dr. Emmet's private hospital, and were from patients belonging to the better class of society.

Dr. Emmet said that, in the treatment of flexures, men equally conscientious had advised the use of the knife and the avoidance of the knife. Experience had taught him that neither view was entirely correct. He had in cases of flexure entirely overcome obstruction by surgical interference, yet he was not successful in curing the patient. The indications were, to remedy any displacements if such existed; to relieve congestion, and, in certain cases, to cut the cervix. Local treatment alone was not sufficient, and attention to the general health often greatly relieved the uterine symptoms.

Flexures of the body and of the cervix differ as to the process of formation. Flexures of the cervix are usually brought about during development of the uterus. The cervix, growing faster than the uterus, sliding along in the axis of the vagina, causing a sharp flexure at its union with the body, and, as puberty advanced, the fundus settled down into the hollow of the sacrum.

Flexures of the body, on the other hand, were the result of disease, either a fibroid tumor by its weight bending the organ on itself, a localized metritis, or the result of a version.

In the cases of flexure of the cervix, dysmenorrhœa was noticed at the beginning of the flow, but, with the congestion of the uterus, the flexure was rectified to an extent sufficient to allow of the escape of blood without pain. When the flexion took place above the vaginal junction the pain increased as the menstruation advanced. This was due to the congestion causing increased weight of the fundus, and, as a consequence, increased flexion. For the relief of flexure of the cervix, Dr. Emmet said that he divided the cervix backward in the median line by a pair of scissors. The operation was attended with but little risk, if there was no sign of pelvic peritonitis or cellulitis, and if the patient was kept in bed till the parts had thoroughly healed.

In flexure of the body there was a great chance that perimetritis, to a greater or less extent, was present. When the flexure had existed for a length of time the tissues at the point of flexure underwent absorption from pressure, and a deformity resulted which was analogous to the anchylosis in Pott's disease of the vertebræ. In any operation that might be indicated it was necessary to wait till all tenderness had been removed, and this might require a year or longer, even with vaginal injections of hot water and local applications to the body of the uterus.

Dr. Emmet said, in conclusion, that with an increase of experience he felt less and less inclined to the use of incision in the treatment of flexures existing in the body of the uterus.

Dr. E. R. Peaslee coincided in every way with the views expressed by Dr. Emmet. The statistics which he had furnished would be of great benefit to a thorough and complete understanding of the whole matter. He was sorry to see that Dr. Sims was not present, as he had hoped that gentleman would be able to give the results of his extensive experience in incisions of the body and neck of the uterus.

Dr. BARNES, of London, by invitation from the President, rose, and said that he was greatly pleased to meet together so many American gynecologists. He was very much interested in the paper of Dr. Emmet. Not only did it contain many valuable statistics of personal observation, but it also contained some novel points on pathology. In his experience, he had found that stenosis of the external os was more common than would be inferred from listening to Dr. Emmet's paper. He had never known stenosis to take place at the inner os. It was but right to say that he had considered the subject from an empirical point of view rather than from a purely pathological one.

Dr. WHITE, of Buffalo, thought that Dr. Emmet's paper was invaluable for its organized mass of statistics and for its suggestive hints. He was also much pleased with Dr. Peaslee's paper which was read before the Academy of Medicine, and had been referred to at the present meeting. He thought, however, that sufficient of prominence had not been given to the subject of stenosis of the os tincæ.

The best treatment, in his experience, was incision of a superficial character followed up by dilatation after a few days. He exhibited an instrument for the purpose which acted on the same principle as a glove-stretcher.

Dr. HOWARD, of Baltimore, said that he had met with stenosis at the inner os uteri of a marked character.

Dr. ISAAC E. TAYLOR gave his views upon the change effected on the cervix by amputation of a part of it. In answer to a question, he said that he had found conception to take place after amputation.

Dr. WILSON, of Baltimore, spoke highly of Dr. Emmet's paper. He had seen only a few cases where there was stenosis of the external os uteri, unless induced by means of continued caustic applications.

Dr. Byrne, of Brooklyn, had amputated the cervix uteri thirty-nine times, and had found that the operation did not prevent conception.

Afternoon Session, September 13, 1876.

Cicatrices of the Vagina.—Dr. A. J. C. Skeene, of Brooklyn, read a paper on the treatment of cicatrices of the vagina. The principle consisted in making incisions into the cicatricial tissue, and introducing a plug formed of slippery-elm bark. This plug served a purpose analogous to the sea-tangle tent, inasmuch as the secretions of the vagina caused it to swell and produce dilatation. Several cases were reported, showing the benefit derived from the procedure.

Dr. W. H. Byford, of Chicago, thought favorably of the use of slippery-elm bark. He had used it with benefit in a case of atresia of the vagina occurring from purulent vaginitis, a sequel of scarlet fever.

Dr. Emmet said that one point not fully brought out was the effect on the nervous system of cicatricial surfaces. The philosophy of the matter was somewhat similar to that of tender stumps following amputations; some nervous filaments apparently became involved in the cicatrix, and thus kept up an irritation. An axiom in gynecology was, that the permanent success of operations depended on the small amount of cicatricial surface following operative procedures; cicatrices of the vaginal wall itself were not of so much importance, but when they involved the bladder and uterus they became of great moment.

In treating cicatricial surfaces the best plan was to make numerous parallel incisions. Any attempt at divulsion was not so satisfactory in its after-effects. The credit of first using the glass vaginal plug was due to Dr. J. Marion Sims.

Viburnum Prunifolium; its Uses in the Treatment of Diseases of Women, and to prevent Abortion.—Dr. E. W. Jenks, of Detroit, read a paper on the subject of *Viburnum prunifolium*, or black haw. The virtue attributed to it was that it prevented abortions, by some sedative or other action on the uterus. The drug had been extensively used in the South by

Dr. Faris, of Mississippi, with marked success. Dr. Jenks had used it in a hundred cases of suspected abortion, and had found that it was an agent to be depended on. The reason of embodying his experience in a paper was because of ignorance on the subject of a large number of his fellow-practitioners. The method of administration was to give from half a drachm to a drachm of the fluid extract of the bark for a few days before and a few days after the menstrual epoch. The action seemed to be directly the reverse of that of ergot. He had used it also with benefit in menorrhagia coming on at the menopause, and had found it to be very serviceable in dysmenorrhœa where there was no mechanical cause of obstruction.

Dr. Jenks presented some specimens of the bark of the plant, and said that he had found that the bark of other species of viburnum, as well as that of wild-cherry, had been used by the druggist, either willfully or through ignorance. Dr. Bates, of New York, said he had been in the habit for some time of using viburnum. His attention had first been directed to it by reading an account of its properties in an eclectic periodical. The class of cases in which he had used it were those in which the abortion had become habitual. He was convinced that it was an agent of decided importance. The fluid extract could be obtained in this city. He had used the resinoid manufactured by Keith & Co., in doses of from two to four grains. The resinoid seemed to be as efficacious as the fluid preparation. Dr. White, of Buffalo, said the members of the Society would in all probability act personally on the suggestions of Dr. Jenks's paper, and be able to report on their experience at the next meeting. In reply to a question from Dr. Mundé, Dr. Jenks said it took the place of opium in controlling uterine action, while at the same time it was an agreeable tonic. His use of the drug had been empirical, and he was not prepared to give its physiological action.

A Case of Abnormal Menstruation.—Dr. T. Parvin, of Indianapolis, reported an extraordinary case of vicarious menstruation. A girl menstruated at fourteen years of age; one year later she became an inmate of the prison at Indianapolis, where she was seen by Dr. Parvin. About the time of menstruation, the under lip, in the form of a triangle extending from the sides of the mouth to the chin, became very much congested and discolored, having the appearance of an ecchymosis. As the menstrual period advanced, blood began to transude, and continued till the period had passed over, when it regained its normal appearance. Dr. Parvin regretted that he had not with him a drawing which would show the appearance of the girl during the menstrual epoch.

Morning Session, September 14, 1876.

THE ADDRESS OF THE PRESIDENT.

THE President, Prof. FORDYCE BARKER, in welcoming the members of the Society, spoke in effect as follows:

FELLOWS AND GENTLEMEN: In this centennial year we have organized this Society for the better advancement of all that pertains to the subject of gynecology. And may we not hope that, when its centennial shall be celebrated, its proceedings will have greatly advanced that department as well as our own national reputation; and may we not secure for it such a reputation for its papers, and such an impress and tone for its discussions, that its annual proceedings will form a valuable addition to gynecological literature, and when one hundred volumes are grouped together they will do honor to the association?

I feel the honor of being elected President, and realize that I am thoroughly undeserving of it in comparison with many others whom I see about me.

The Society was originated by one man who, by correspondence and personal solicitation, brought about a meeting of organization which resulted in the present central meeting of the association. I can speak freely on the subject, as I am not personally interested.

The meeting of organization limited the number of members of the Society, and so far two-thirds of the number have been elected. The papers which will appear in the proceedings will be made up of two classes: 1. Those which may be read and discussed at the meetings. Some of these may only stimulate inquiry, and in this manner do a valuable work in bringing out the experience of others. I doubt not that many such will be offered. 2. This class will consist of papers which require leisure for their perusal, and of those dealing with statistical matters and subjects requiring original research. Of necessity these papers cannot be properly discussed in the limited time of the meetings. In regard to the selection of members, the council has decided that the candidate present a paper of sufficient merit to entitle him to election. I would say here, that, if the candidate fails in producing a satisfactory paper, it should not dishearten him, but merely urge him to more determined efforts. We have examples of members failing two and three times at the French Academy, who afterward were elected and shed great glory on that organization.

The President then reviewed the progress of obstetrics and diseases of women, and gave proper credit to the work of William Hunter on the anatomy of the gravid uterus, which he said formed the basis of the art of obstetrics. In tracing down the subject, he touched upon the recognition of the diseases of pregnancy as such, and the rational use of the forceps to expedite labor in cases where, if the patient were left to herself, delivery would eventually be accomplished. He referred also to the different aspect given to parturition by the use of anæsthetics, both from the standpoints of the physician and patient. In conclusion, he said that science is cosmopolitan, and that all investigation must become reciprocal to such an extent as to render such terms as English school, German school, etc., obsolete.

At the conclusion of the address, a vote of thanks of the Society was tendered to the President by the Vice-President, Dr. Byford.

On motion by the Secretary, expressions of sympathy were ordered to be conveyed to Drs. Battey, of Georgia, and Buckingham, of Boston, who were prevented by sickness from being present.

Relation of Pregnancy to General Pathology.—Dr. Robert Barnes, of London, read a paper under this title. He said the relations of pregnancy to general pathology had been insufficiently studied. There had been too much a habit of considering them singly, and not regarding pregnancy as a means of throwing light on pathological subjects, which it did in a remarkable degree. In regard to Bright's disease, it was absolutely impossible to trace the causes which led up to and obscured the disease itself. In the pregnant woman we might consider gestation as a scientific experiment, where the physiological passed into the pathological state with great rapidity.

An important subject to consider was the state of the blood and the nervous system. Hippocrates found that the blood of pregnant women was below the standard of health. This opinion was confirmed by Andral and Gavarret as well as by later physiologists, who have proved that not only was there a diminution of red globules and albumen, but an increase of fatty matters.

Another point requiring study was the relation existing between the uterus and the respiratory organs, with the increased exhalation of carbonic acid. In pregnancy, again, there was an increase in function of glands—not only the mammary, but the thyroid, the parotid, and the spleen. From the influence on the heart, the eyes, and the thyroid, pregnancy simulated goitre; and, from the enlargement of the spleen, it would seem that there was a relation to ague. This relation was so marked that he who studied malaria could not afford to overlook the condition of the system induced by pregnancy. We often saw cases where ague had been dormant for a length of time, and during gestation a return of the malarial symptoms took place.

Chorea was a disease which was liable to return during pregnancy, and if it did not then return the patient might be said to be undoubtedly cured.

In reference to the increased function of glands, salivation was a marked case in point. He had seen a patient come into his consulting-room with a mug which she readily filled. The sebaceous and sudoriferous glands were also liable to be affected.

The four great emunctories which reciprocated to a certain extent were the lungs, liver, kidneys, and skin. The lung could only be relieved to a certain extent of its burden, and when carbonic acid accumulated in the system abortion took place.

In convulsions, three factors were involved, as proved by physiological experiments on the frog poisoned by strychnia. These factors in pregnancy were: nervous excitability in preternatural amount; a toxic element, urea, circulating in the blood; and some eccentric source of irritation, such as an overloaded stomach, etc.

The phlegmasia dolens of pregnancy might throw light upon the same condition when existing in typhoid fever, cancer, phthisis, and other diseases. Pigmentation, so marked in pregnancy, was apparently influenced by nervous distribution. Reference was made to the probable increased function of the supra-renal capsules, as accounting for the extensive formation and deposit of pigment in utero-gestation.

In conclusion, Dr. Barnes said that his paper consisted of a series of questions that had occurred to him, from time to time, and which he hoped might be solved, at all events in part, by members of the Society.

Dr. Peaslee moved a vote of thanks to Dr. Barnes, which was unanimously carried and presented to him by the President. Dr. Peaslee said that Dr. Barnes's paper was rich in suggestions on a very important subject, but which were difficult to discuss, as the title of the paper was not made known before it was read. Pregnancy did throw a flood of light on some departments of pathology, and presented pathological states under new aspects. Thus, phthisis seemed to be arrested during the period of gestation, while at the same time it advanced with increased rapidity after parturition. Another fact to be noticed was, that, if the uterus did not return to its normal state after delivery, the same conditions which existed during pregnancy remained.

Dr. Lusk referred to a case of ague which returned during utero-gestation, and was not influenced by large doses of quinine till after delivery was accomplished. He would wish to ask Dr. Barnes how he would decide that the carbonic acid itself caused abortion, and not other toxic elements.

Dr. Barnes, in reply, referred to the experiments of Dr. Marshall Hall. He referred also to a massacre which took place during the war in Algiers, where the French soldiers built fires before the openings of caves to which the Arabs fled for shelter. It was found afterward that many of the Arab women aborted before dying of suffocation.

Dr. Richardson, of Boston, recited the history of a case of mammary abscess, in which he made an incision through the areola, and continued it down a short distance. After cicatrization took place, it was found that pigmentation existed all along the line of incision. He suggested that, if incisions were made, they should be confined either to the areola or to the breast beyond the areola.

Afternoon Session, September 14, 1876.

Report of a Case of Abdominal Pregnancy treated by Gastrotomy.—Dr. T. G. Thomas read the history of an interesting case of extra-uterine pregnancy which had been treated by abdominal section. The diagnosis had been strongly inferred from the development of the case, which was characterized by nausea and vomiting, and later by deposition of pigment. The most important and reliable signs, however, were a solid body the shape of a fœtus floating in fluid in the abdomen, and at the same time an empty uterus. After aspirating a large amount of sero-pus, the solid body rested at the symphysis pubis. It was decided to perform gastrotomy, and, after etherizing the patient, an incision was made in the linea alba to the extent of five inches, and a child removed. Dr. Thomas said that he would have jeopardized the life of the patient, after cutting through the abdominal walls and reaching the peritonæum, if he had not been confident of the diagnosis. The peritonæum was thickened, and presented many of the characteristics of an ovarian cyst. If the mistake had been made of stripping it off the abdominal wall, the patient in all probability would have died. After extracting the child, no placenta was seen, but merely the attachment of the cord to the peritonæum. From the experience gained in a former case, no attempt was made to discover and remove the placenta. The wound was closed, and a drainage-tube inserted in the bottom of the incision. The child weighed seven pounds, and had died apparently from compression of the cord. The experience of the former case referred to by Dr. Thomas was a persistent and nearly fatal hæmorrhage following the attempt to remove the placenta by force. After the operation, the patient did well till the fourteenth day, when signs of septicæmia developed themselves. On examining the drainage-tube it was found to be closed up, and, on clearing it and removing the discharge, the patient improved. Shortly after, a decomposing mass presented at the wound, and on examination this was found to be the placenta. After the removal of the placenta, the patient made a good recovery.

Dr. Thomas said that two important points to be considered in the operation of gastrotomy for abdominal pregnancy were, first, not to remove the placenta, and second to keep the abdominal wound open. He had had under his charge seven cases in all, and in six of these a positive diagnosis had been made previous to operation. Four of them recovered and three died. In regard to the subject of operating, no definite rule could be laid down. In some cases an operation would be a blunder.

Dr. Barnes agreed with Dr. Thomas that no definite law could be laid down in regard to operation. He coincided also with the opinion expressed as to not removing the placenta. This had struck him forcibly in a case which he saw with Dr. Ramsbotham, of London. He questioned, however, if it were wise always to leave an unclosed portion of the abdominal wall for the voidance of the placenta. He believed that in many cases the placenta would either be absorbed or undergo such change as to give no further annoyance after the operation. He had not been so happy as Dr. Thomas in making correct diagnoses in this class of cases. He called to mind distinctly two cases that he supposed were undoubtedly extra-uterine pregnancies. They proved, however, to be ovarian tumors. In speaking on the subject, he wished to draw attention to another point, and that was, the inability to make a diagnosis of ovarian tumors from a microscopical examination of the ovarian fluid. He obtained some fluid from a suspected ovarian tumor, and had it examined by one of the most skillful experts on the subject in London. On his assurance, ovariotomy was performed, when the case proved to be ascites.

Dr. DRYSDALE, of Philadelphia, said that in an experience of twenty-three years he had examined fifteen hundred cases, and had not made a mistake. He felt he could speak with certainty. The peculiarities of the cell were, that it was of a granular character and unaffected by acetic acid. When the same test was applied to the pus and other cells, they swelled up and became decidedly changed.

Dr. BYFORD had an experience of twenty-five cases, and in all of these the cell referred to by Dr. Drysdale was present.

Dr. Thomas said that Dr. Barnes touched upon an important subject in speaking of the treatment of the placenta. The matter resolved itself into the question whether the safer procedure was to keep the abdomen open for drainage or not. He was strongly convinced that the former was the better plan, for the reason that it was unsafe to wait for septicæmia to develop. Again, if septicæmia did develop and the abdomen were closed, it would involve the necessity of opening up the cavity, and an exceedingly important point was the danger of not finding the nidus of septicæmia. In future cases he felt that he would be warranted in prosecuting the same method as practised in the past. Of the cases in which he had made a correct diagnosis he did not take any special credit to himself, as he thought that they were by no means obscure or puzzling. In regard to the ovarian cell, he was of the opinion that, although Dr. Drysdale was able to make a correct diagnosis, other observers were not so skillful. He had asked the opinion of microscopists in New York, and they frankly told him that they were unable to diagnosticate ovarian tumors by examining the aspirated fluid. It was only fair to Dr. Drysdale to mention that, of all the specimens sent to him for examination, a correct opinion had been rendered in each case.

Pneumatic Self-Replacement in Dislocations of the Gravid and Non-Gravid Uterus.—Dr. H. F. CAMPBELL read a paper on the above subject, and suggested that patients be instructed in the operation to such an extent as to allow them to replace the uterus every night and morning. The operation was the same as that generally practised, and consisted in placing the patient upon her knees and chest, and then separating the labia for the admission of air. An instrument in the shape of a glass tube was exhibited, which simplified the operation, inasmuch as it could be introduced previous to attaining the requisite position, and withdrawn after air had entered the vagina.

Dr. Campbell gave his experience in replacing dislocations of the gravid uterus by this process. The first case was that of a woman who suffered greatly from nausea and vomiting, together with profuse salivation. Only slight relief was obtained by the use of morphia. On making a vaginal examination, the uterus was found retroverted and impacted. The experiment was attempted of replacing it by the pneumatic method every night and morning. At the end of the third day, progress had been made, and by continuing the process complete restoration of the organ was accomplished, with relief of the former unpleasant symptoms. Another case communicated to Dr. Campbell was one of convulsions, in which symptoms were readily relieved in this manner.

Dr. Emmet said the first occasion on which he had ever met Dr. Marion Sims was when he was demonstrating the process referred to by Dr. Campbell. That was about twenty-five years ago. Dr. Emmet was constantly in the habit of requiring cases of retroversion to practise the method night and morning. He thought, however, that the glass tube shown by Dr. Campbell was a marked improvement and a valuable instrument. The only difficulty in employing the method was in cases of rupture of the perinæum. In such cases it was necessary to require the patient to keep her thighs close together while getting into the proper position. Eight years ago he was asked to see a woman with retroversion. He first dilated the anus, and found that the uterus was in a more impacted state than before, but by separating the labia air rushed in, and the uterus swung around into its normal position.

Dr. Smith, of Philadelphia, wished to know what advantage was gained over the use of pessaries. He said he was in the habit of using pessaries in cases of abortions coming on from a retroverted uterus, and found them to be satisfactory in their results, even after symptoms of abortion supervened.

Dr. Chadwick, of Boston, appreciated the advantage of replacing the uterus by the tractile efforts of the abdominal viscera when the patient was placed in the knee-and-chest position.

Dr. Campbell, in reply, said he was in accord with Dr. Smith in respect to the use of pessaries. It was not offered as a means of superseding their use, but as a method of reducing the displacement, and also to be used by patients in whom pessaries were not desirable—such as young girls and others who could not be induced to consult a physician.

On the Desirability of operating during the Menstrual Ebb in Women.—A paper by Dr. Storer, of Boston, on the menstrual ebb in women as a time for operating was read by the Secretary. Dr. Storer located the period as the week following the catamenia, and suggested that at that time there was a greater immunity from bad results in ovariotomy and pelvic surgery than at any other period. He considered menstruation as a process which involved the whole system, and not any special organ, such as the uterus or ovaries.

Some discussion took place as to what might be considered by the term menstrual ebb, and, in the absence of Dr. Storer, it was decided from the concluding paragraph of the paper that he meant, not the period before menstruation, nor the period of menstruation, but the week immediately following the cessation of menstrual hæmorrhage.

Morning Session, September 15, 1876.

Spontaneous and Artificial Disintegration of Fibrous Tumors of the Uterus.—Dr. W. H. Byford, of Chicago, read a paper on the above subject, giving his experience in the disintegration of fibrous uterine tumors, with the view of obtaining the experience of others. Numerous cases were recorded, showing the effects of Nature unassisted, and also assisted by the use of ergot. In regard to the use of ergot, the expectations of the physician were frequently disappointed. This disappointment might be attributed to the bad character of the drug. In quoting some remarks made by Dr. Squibb at the American Pharmaceutical Association, he said: "Ergot, as met with in the market, was frequently bad in quality. Some of it contained seeds of weeds which might have a poisonous effect. Some of it was old, and had little of the smell of ergot about it. Some of it was worm-eaten, and some of it, again, looked as if it had been washed by water so as to separate the ergotine. If ergot was kept in a powdered state it readily underwent a change which weakened its special effect on the system." Dr. Byford, in resuming his remarks on the action of ergot, said it was only of benefit when the uterine fibre was developed. The preparation which he had been most frequently in the habit of administering was the fluid extract, and, although he had continued it for indefinite periods, he had never detected any of its toxic effects on the system.

Dr. W. L. ATLEE, of Philadelphia, opened the discussion. He said that disintegration was usually confined to uterine tumors of the submucous variety. These tumors were not highly organized, and were liable to decay after a manner something similar to fruit. The whole process was a species of the eremacausis described by Liebig. When such a result did occur, the duty of the attendant was to remove the whole of the disorganized mass as soon as possible, to prevent the dangers of septic poisoning. Ergot must be considered as the most important agent in producing such a result by causing uterine contractions. If no benefit was obtained from the ergot, disinfectants must be had recourse to.

Dr. Atlee referred to a case of fibroid tumor in a pregnant uterus, where during the expulsion of the child the continued pressure caused death of the tumor and afterward its removal.

Dr. W. GOODELL, of Philadelphia, referred to a case of fibroid tumor situated near the fundus of a pregnant uterus. It suffered a result somewhat similar to the one referred to by Atlee. After delivery septic symptoms developed, but under the combined influence of ergot and quinia convalescence was established. In another case of fibroid he incised the capsule and administered ergot. After a time the tumor came away in detached pieces.

Dr. DRYSDALE, of Philadelphia, had given half-drachm doses of the fluid extract of ergot persistently in fibroid tumors of the uterus, and found it to have a decided action on the tumor. He had also given half-ounce doses of the fluid extract three times a day for a year, and failed to notice any bad effects on the system. In one case of fibroid about as large as a pregnant uterus at eight months, the administration of the ergot for two years resulted in permanent recovery. That was of the intramural variety. He had another case of large tumor under treatment, which was being expelled in portions.

Dr. EMMET said that, when ergot failed to act, it was due to not studying the position of the tumor. Ergot may do more harm than good. It failed to be of service in those cases in which it was not assisted by gravity. He felt disposed to ask if a careful examination *per vaginam* had been made in the cases reported before the Society. He knew of no case in which it caused disintegration unless the tumor was pedunculated and had its nourishment interfered with.

Dr. THOMAS said that ergot had two actions: first, in acting in union with gravity: and, secondly, in cutting off the vascular supply of the tumor as pointed out by Hildebrandt.

In reply to a question from Dr. Wilson, of Baltimore, it was stated that when ergot caused severe uterine pain its administration was stopped.

Dr. Byford closed the discussion.

Latent Gonorrhœa, especially with Regard to its Influence on Fertility in Women.—Dr. E. NOEGGERATH read a paper on the above subject, which was a continuation of a paper which he published four years ago. The ideas advanced were novel, and, if borne out by the profession, would become of grave interest. He held that gonorrhœa, when once contracted, was never thoroughly cured. In the female it passed on to cause perimetritis and chronic mucous inflammation of the genital tract. He said a peculiarity was, that it was excessively obstinate in yielding to treatment. The characteristics of it were, an eroded os uteri, displacement of the uterus, chronic ovaritis, catarrh of the vulva and peri-urethral mucous membrane, together with its absolute incurability.

The grave aspect referred to by Dr. Noeggerath was the fact that patients affected in this way were relatively sterile. He made this suggestion on the foundation of a large number of statistics which he had collected. He included as relatively sterile those in whom abortions were frequent.

Dr. **Engelmann**, of St. Louis, said that Dr. Noeggerath's paper explained some *post-mortem* evidences of salpingitis which he had seen in patients who bore evidence of venereal disease.

Dr. **Chadwick**, of Boston, criticised Dr. Noeggerath's paper which was published in 1872, and said that he knew many cases of patients who had gonorrhœa, and who had afterward married. He had not noticed any tendency to sterility as a result of their unions.

Other members of the Society concurred in the same view. It was suggested by one member that, if Dr. Noeggerath's opinions were adopted, it would become incumbent on the profession to prevent, as far as possible, all marriages with those who had at any previous time had gonorrhœa.

Dr. Noeggerath, in closing, said that no opinion could be formed by observing a few cases. Many cases would have to be observed before a deduction could be drawn.

Death from Malignant Disease, the Result of Urinæmia.—The Secretary read a paper on the above subject, by Dr. Alfred Wiltshire, of London. The object of the paper was to draw attention to sudden death occurring in malignant disease of the uterus, and to indicate the manner in which it was brought about. The cause, according to the author of the paper, was pressure exerted upon the ureters by the malignant growth, or by the disease involving the ureters and closing them. Death came on too rapidly to permit of much distention of the pelvis of the kidneys by the excreted urine. Several cases were reported, to show that the view was founded on pathological evidence.

The author stated that he did not rely much on any success to be hoped for by catheterization of the ureters, though an exploration made in that way might secure valuable information. He was strongly opposed to the use of opium when there was a tendency to coma, and suggested other narcotics, such as cannabis Indica, in its stead.

Dr. PARVIN stated that the suggestion made by Dr. Wiltshire, in his paper, had been anticipated by Cruveilhier and other observers. He had serious doubts as to whether it was the duty of the physician to endeavor to prolong the agony of a patient suffering from malignant disease of the uterus, and was rather of the opinion that uræmic coma formed a desirable species of euthanasia.

Dr. SKEENE agreed with Dr. Parvin as to the duty of the physician in cases of malignant disease of the uterus. He disagreed with Dr. Wiltshire as to the disadvantage of giving opium, and thought that it had been pretty thoroughly proved, both by the President, in his book on puerperal diseases, and by Dr. Loomis, of this city, that opium, in Bright's disease, was one of the most important agents to be relied on. He thought it was less dangerous than chloral.

Dr. WILSON, of Baltimore, had found morphia to be of benefit in checking uræmic convulsions when chloroform failed to subdue them.

A Menstrual Hystero-Neurosis of the Stomach.—Dr. G. I. ENGELMANN, of St. Louis, read a paper on neurosis of the stomach, coming on during menstruation, and resembling the condition induced by pregnancy.

Afternoon Session, September 15, 1876.

Removal of the Ovaries for the Relief of Epilepsy.—Dr. R. BATTEY, of Georgia, sent on a paper to the Secretary, "On an Operation for Extirpation of the Ovaries," but, in the absence of the author, the President deemed it best to postpone its reading. Dr. E. R. PEASLEE consented to recite a case of similar operation which he had performed at the Woman's

Hospital. He presented the two ovaries and the rudimentary uterus. The history of the case was as follows:

The patient was seen for the first time during June, 1867. She was twenty-four years of age, and had been married for one year. She had never menstruated. In external characteristics there were the evidences of perfect womanhood. At times there was decided sexual excitement, which lasted several days. On making a vaginal examination, the vagina was found to terminate in a *cul-de-sac*. On making a rectal examination, the uterus was not found, but the right ovary was easily recognized. The left one could not be found. The patient was next seen nine years after. She stated that for the past eight years she had suffered from epilepsy during the menstrual epoch. Different remedies had been tried, but with very little benefit. On making a vaginal examination the same condition was found as existed nine years previously. The operation of extirpation of the ovaries was recommended. This opinion was coincided in by Drs. Emmet and Thomas, and acceded to by the patient. The operation was performed June 7, 1876. After having etherized the patient, an incision was made in the abdominal walls, three and a half inches in length. After cutting through the peritonæum, the small intestines were found in front of the broad ligament. A sound was carried into the bladder, and the hand readily passed into Douglas's *cul-de-sac*. The right ovary was detected, as had been suspected. It was in a cystic condition. The left ovary was found about an inch posterior and below. The fimbriated extremities of the Fallopian tubes appeared normal, and there was also what seemed to be a rudimentary uterus. Both ovaries were removed, and ligatures placed around the peritoneal folds above the points of section. The cavity was then closed by sutures. The patient did well for a short time, but died within fifty-eight hours, of peritonitis. Dr. Peaslee said that, regardless of the bad result, he would under the same circumstances feel justified in repeating a similar operation.

Dr. Peaslee exhibited the ovaries which he had removed, and said that between the two ovaries there was apparently a broad ligament, but it was in reality a rudimentary bipartite uterus, having either cornu extending up to the respective ovary. In referring to the operation, he said that it was of a highly-dangerous character, and should not be attempted without the free consent of the patient. In regard to the general characteristics of the case upon which he had operated, he said that she presented every appearance of femininity, with the single exception of menstruation. She was a lady of culture and of refined tastes, and in no manner did she present any defects. In speaking of the development, he said that the presence of the vagina indicated a uterus, even if in a rudimentary form. The ovaries, if present, did not indicate that menstruation would occur, but the existence of sexual excitement indicated that the ovaries were present.

Dr. Norman B. Trenholme, of Montreal, said that he had performed the operation on two patients, with a recovery in each case. The patients suffered from chronic ovaritis, with displacement. Much pain was complained of, and it was with the intention of relieving this pain that the operation was performed. The operation consisted in placing the patient in Sims's position, introducing a speculum, and making an incision through the fornix of the vagina and Douglas's *cul-de-sac*. The ovary was secured without difficulty. A ligature was placed around the stump, and the wound healed by first intention. No disturbance took place, and the patient had barely an increase of pulse or temperature. Unfortunately, the second case was not relieved of her attacks of pain by the operation. It seemed as if the source of the trouble was in the ovarian nerve.

Dr. Thomas reported three cases of removal of the ovaries. The first was the wife of a physician. She developed an ovarian tumor, and at her urgent request it was removed. The tumor was very small in size, and Dr. Thomas decided to operate through the vagina. The tumor was grasped, after cutting through the vagina and peritonæum, and evacuated. It was then withdrawn, and the incision closed by sutures. The patient did well after the operation, the only complication being a slight attack of pelvic peritonitis.

The second case was twenty-one years of age. She suffered severely, and for the past seven years had been so invalided that she was unable to walk. She had also menstrual epilepsy somewhat similar to the case reported by Dr. Peaslee.

The operation performed was similar to the one performed by Dr. Peaslee, an incision being made through the abdominal wall to the extent of three or four inches.

The patient recovered without any bad symptoms beyond what seemed to be hysterical peritonitis.

The unfortunate element in connection with the case was, that she was in no manner relieved of her former symptoms, beyond being able to walk about. Shortly after the operation, she married.

She had ceased menstruating entirely, but still complained of pelvic neuralgia.

The next case, previous to a proposed operation, corresponded with the patient just referred to, and was so disheartened that she decided not to undergo it. She died some months after, however, from the exhaustion of continued profuse menstruation.

The third case was one in which temporary insanity developed. She suffered very severely from dysmenorrhœa. The ordinary operation was performed, and an enlarged ovary removed. The patient died fifty-six hours after the operation, from peritonitis.

Dr. Emmet said that he was very strongly opposed to the removal of the ovaries. He did not believe that it could be of any service to existing symptoms. He thought that much more benefit would result from some treatment that would restore the general health if that were possible.

What is the Best Treatment for Acute Lacerations of the Female Perinæum, and for Lesions of the Recto-Vaginal Septum?—Dr. W. Goodell, of Philadelphia, presented a clinical memoir on the treatment of acute lacerations of the perinæum, with the intention of obtaining the views and experience of other members of the Society. The objections which had been cited against the immediate operation were: Non-union; the tendency of the sutures to dispose to erysipelas or phlegmasia alba; the inability to adapt the parts; and the desire of not allowing the patient to realize the operation. His opinion was, that experience proved that the chances were in favor of partial if not complete union; that there was no special tendency to erysipelas, nor was there any particular difficulty in bringing the parts in apposition. On the other hand, a decided advantage was obtained by the enforced rest which the patient was required to take. He detailed a number of cases which had happened in his own private practice.

The first case was one of extensive rupture, which he closed by sutures. Through indiscretion in diet, a diarrhœa developed, but nevertheless a strong band was left anteriorly.

The second case was one of rupture through the sphincter ani. The cervix was also involved. Puerperal fever, which was prevalent at the time, occurred, and the patient died.

The third case was a very extensive rupture. The margins of it were trimmed and brought together; after a week, the union was complete.

The fourth case was one of complete rupture. The wire employed in the operation was iron, covered with silver. Diarrhœa occurred, and the iron wire broke. Dr. Goodell said that he had found since that, when silver-plated wire had been carried in the pocket for some time, it became brittle.

The fifth case was peculiar, inasmuch as during the passage downward of the head a gush of blood took place from the rectum, followed by the hand of the child. The child's head again disappeared with a snap, and shortly afterward delivery was accomplished, with the rupture of the perinæum. The perinæum was closed with sutures, and at the end of the fourteenth day both the perinæum and septum of the vagina were found to be united. The explanation of the appearance of the hand at the anus, and the subsequent snap, was that during the delivery the elbow became engaged in front of the head, and afterward was carried back posteriorly, sweeping the back, and fracturing the clavicle. The child died at the end of twenty days from syphilis, but the union of the bone was complete at the time of death.

In conclusion, Dr. Goodell said that, to his mind, there was no doubt that an immediate operation was the better plan in partial rupture of the perinæum. He had not made up his mind, however, as to the best procedure in cases where the septum of the vagina was lacerated.

In response to a question from the chair, Dr. EMMET said that for many years he had not practised obstetrics, but he was strong in the belief that immediate operation was the most desirable for the interest of the patient. Dr. SKEENE thought that it was the duty of the physician to close the laceration as soon as possible, regardless of the shock to the patient's friends. He had not found it necessary to trim the edges of the laceration, as suggested by Dr. Goodell.

Dr. JENKS thought a distinction should be made between the class of cases in which labor was terminated rapidly and that class in which the head was delayed in the cavity, or at the outlet of the pelvis.

Dr. HOWARD, of Baltimore, had operated in five cases. Four of them resulted in union, and the fifth died of puerperal fever.

The President, in response to a call, said that, as the hour for adjournment was near at hand, he did not feel at liberty to take up the few remaining moments of the Society. He was not entirely in accord with the opinion of the majority, and was inclined to think favorably of the opinions expressed by Dr. Jenks. Dr. Goodell, in closing, said that he had operated a few hours after delivery, and found the result to be very good. He had no experience in endeavoring to bring about union after granulation was established. In reference to Dr. Skeene's suggestion as to the undesirability of trimming the edges of the wound, he wished to say that he meant merely removing portions of mucous membrane that would be liable to slough during the process of healing.

The President, in bringing the meeting to a close, paid a fitting compliment to the valuable character of the proceedings.

The meeting for the year 1877 will take place in Boston, during the month of May.

The officers for the ensuing year are as follows: President, Dr. Fordyce Barker, of New York; Vice-Presidents, Drs. W. L. Atlee, of Philadelphia, and W. H. Byford, of Chicago; Council, Drs. J. Marion Sims, of New York; W. Goodell, of Philadelphia; T. Parvin, of Indianapolis; G. H. Lyman, of Boston; Secretary, J. R. Chadwick, of Boston; Treasurer, Paul F. Mundé, of New York.

PATHOLOGICAL SECTION, MEDICAL SOCIETY, COUNTY OF KINGS.

Stated Meeting, May 11, 1876.

Dr. Giberson, President, in the Chair.

Dr. Schenck presented a calculus weighing two hundred and forty grains, successfully removed May 4, 1876, by the median operation, from a boy aged nine years, who had had symptoms for three years; also a number of small calculi, passed by the patient reported at last meeting as still having incontinence after the operation.

Dr. G. W. Cushing presented a stomach, with the following history:

Thos. W., aged fifty; England; sailor; entered Long Island College Hospital April 14, 1876, having had severe pain several months in region of stomach. Vomits all food one-half or one hour after taking it; no hæmatemesis; is emaciated, weak, and constipated.

A hard mass can be felt in epigastrium, which is not tender.

℞. Opium and bismuth, and given diet of milk and lime water, eggs, etc., and occasional doses of diffusible stimulants.

Death occurred April 19, 1876.

On autopsy the following day were found: great emaciation; upper lobe right lung hard and fibrous; thorax otherwise normal; liver soft and fatty; kidneys soft and contracted; pyloric extremity of stomach almost obliterated by malignant deposit, extending into duodenum; mesenteric glands involved.

Dr. Cushing also presented a bladder, showing great hypertrophy of third lobe of prostate, from a patient dead of apoplexy.

John I., aged forty-two; Finland; seaman. Entered Long Island College Hospital February 26, 1876.

He complained of pain and stiffness in lower limbs. Has had syphilitic rheumatism some years since. Has also had acute rheumatism; œdema of lower limbs. No difficulty of urination, and there being no symptoms pointing to urethral or cystic disease, no sounds were passed.

Urine normal. No cardiac lesions were made out. No pain except in limbs. Temperature, pulse, and tongue normal.

℞. Warm foot-baths, electricity, and potass. iodidi.

Improvement continued till April 16, 1876, when he died suddenly.

At the autopsy, on the same day, a large clot was found in left lateral ventricle. Heart was filled with a fibrous clot, extending into great vessels. Aortic degeneration. Abdominal viscera normal, except bladder, which was much thickened and contracted with hypertrophied prostate and third lobe.

Dr. Westbrook, in reply to a question, said that this patient had no cystitis or retention. The specimens were referred to the microscopic committee, and the Section went into executive session.

Stated Meeting, May 25, 1876.

The President in the Chair.

Dr. Cushing presented a specimen from Long Island College Hospital, consisting of an abnormal origin of right subclavian and carotid arteries. There is no innominata; the right subclavian arises from the left posterior portion of the aortic arch, passes to the right behind œsophagus and trachea to its distribution. The right carotid arises in the same way as the left.

Dr. Giberson presented a uterine polyp, removed May 20th (by galvano-cautery) by Dr. John Byrne.

Patient was aged forty, regular till last eighteen months; since then, metrorrhagia, and daily since three months. The polypus was extra uterine, pedicle being located at os-internum, behind and to the left. A smaller, flatter one was excised at the same time.

The questions being raised: 1. Why very small polypi cause so much bleeding? and 2. Why do *any* fibroid polypi cause it at all?

Dr. ROCKWELL said he had presented to the Section a polyp only size of bean, which had caused death by hæmorrhage.

Dr. MATHEWSON said aural polypi were very prone to bleed.

Dr. CUSHING spoke of two cases of fibroids where amenorrhœa existed, even where the fibroids bled at a touch.

Dr. GIBERSON said ergot had been much used at St. Mary's Hospital in cases of sub-mucous fibroids to produce their expulsion by uterine contractions.

Dr. ROCKWELL asked if Hildebrandt's formula, or ergotine, had been used.

Dr. GIBERSON said both ergotine and the fluid extract had been used. No abscesses or unpleasant head symptoms had been developed.

Dr. SEGUR thought solid extract in pill form to be easiest tolerated.

Dr. GIBERSON thought the rationale might be explained by the well-known intolerance of the uterus for slight foreign bodies, as a bit of the membranes lodged in the cervix will bring on post-partum hæmorrhage.

Dr. WESTBROOK said that if the use of intra-uterine pessaries uniformly produced metrorrhagia, it would explain the rationale of hæmorrhage from fibroids.

Dr. GIBERSON said this was sometimes the case, and referred to a patient who tolerated this pessary well. It had been repeatedly removed and reintroduced for other purposes, and, when worn, she menstruated regularly. If the pessary was removed, she relapsed at once into her old state of amenorrhœa. The reintroduction would bring the menses *at once* back to the normal point.

The specimen was referred to the microscopical committee, and the Section went into executive session.

Bibliographical and Literary Notes.

ART. I.—*Cyclopædia of the Practice of Medicine.* Edited by Dr. H. VON ZIEMSSEN. Vol. XI. *Diseases of the Peripheral Cerebro-Spinal Nerves.* By Prof. WILHELM HEINRICH ERB, of Heidelberg, Baden. Translated by Mr. HENRY POWER, of London, England. ALBERT H. BUCK, M. D., Editor of American edition. 8vo, pp. xxiv.–623. New York: Wm. Wood & Co., 1876.

THE decision to publish out of their regular order the volumes treating upon diseases of the nervous system may be considered a wise one on the part of the editor and publishers. There is an especial interest at present attached to that class of affections, and probably the majority of American readers were not desirous of waiting another year for the appearance of this volume.

Diseases of the central nervous system are described in another volume. The one before us takes up the peripheral diseases, such as neuralgia, spasm, paralysis from disease, and derangements of the nerves, etc., etc.

In attempting an analysis of the contents we are of the opinion that a notice expressive of the general character of the work will better serve our readers than will any minute exegesis. Indeed, it is difficult to criticise minutely, within reasonable space, a work treating of so many individual affections, and at the same time so practical in character.

The section on "Neuralgia" will be likely to elicit the especial attention of the reader, and for the benefit of those who have not access to the volume we will make a few quotations setting forth the special views of the author.

The author suggests that "*neuralgia must, in the present state of our knowledge, be regarded as a symptom;*" that, while in many cases there may be detected anatomical changes, yet they are dissimilar and inconstant, and the exact relation they bear to the pain is uncertain. In consequence of the want of detectable material changes, the author maintains that we are, with our present attainments in research, "justified in maintaining the symptomatic unity of neuralgia." In this he agrees substantially with Anstie. He admits, however, that anatomical changes may exist, and pass undetected by our present methods of examination. Erb concedes our want of positive knowledge of the essential factors of the disease:

"From what has been stated it is obvious that the pathogeny of neuralgia is still extremely obscure, and for the most part rests on hypotheses. Thus, in relation to the circumstances which cause the predisposition to neuralgia, the terms debility of the tissues, molecular disturbances of nutrition, greater vulnerability, greater excitability of the sensory nerves, are all expressions which but lightly veil our ignorance of the essential nature of the process. We shall hereafter, perhaps, obtain more definite information in regard to it" (p. 34).

In his account of the nutritive changes which occur in neuralgia, Erb, while he does not discuss the question at great length, expresses his belief in the existence of trophic nerves, and thinks that certain trophic disturbances can only be explained on the supposition of their entity. In discussing the nature of "Tetany," the author, on page 373, again alludes to their existence and influence:

"The proof of the existence of such delicate trophic disturbances in the peripheric motor nerves must be furnished, as it appears to us, by the results of electrical examination; the great increase of excitability cannot be due, we think, to any other cause than the molecular changes of the nerve-substance. It appears, then, that we do not go too far in attributing the essence of tetany to delicate trophic disturbances, occasioning great increase in the excitability of the motor apparatus, and we should expect spasmodic attacks to occur whenever any unusually strong stimulus affects the motor nerves."

Incidentally the author hints that spinal irritation is closely allied to neuralgia. He considers it an hysterical affection, and draws some fine points of clinical distinction between it and neuralgia.

The author is quite full and satisfactory in treating of the therapeutics of neuralgia. He lays great stress on the necessity for constitutional repair in many cases, and shows the uselessness of certain empirical remedies. The favorable influences of electricity are duly dwelt upon, among other things.

It is held that certain cases are incurable. In giving the treatment of headache, the author thus expresses himself on the possibility of galvanizing the brain:

"The transmission of the galvanic current through the head from before backward, and from side to side, and along the sympathetic nerve, is of the highest value; and after this the stabile application of the anode to the skull or other painful part" (pp. 143, 144).

The pathological questions in the remainder of the book are handled with care and marked ability, and we can speak with equal favor of the practical character of those portions of the volume. The translation and style of the book are good.

ART. II.—*On Tracheotomy, especially in Relation to Diseases of the Larynx and Trachea.* By W. PUGIN THORNTON, Surgeon to the Hospital for Diseases of the Throat, London. Philadelphia: Lindsay & Blakiston, 1876.

THE best and most interesting sections of this little work are those which relate to the diseases, injuries, and conditions of the larynx and trachea which necessitate the operation of tracheotomy; and as they are based upon the author's personal experience in thirty-eight cases, and illustrated by the histories of many of the most instructive among them, they have a practical value, and may be read with profit and interest. The opening sections—those relating to the anatomy of the trachea; the operation of tracheotomy itself, with a description of the necessary instruments and apparatus; the preparatory and after treatment, together with the dangers which attend its performance—are more or less elementary in their character, and, while they contain nothing which adds to our knowledge of the subject, embrace several statements and suggestions to which, certainly in this country, exception would, we think, be taken. Among these, the position of the operator, which he states will be more convenient and comfortable if he stand behind the head of the patient, instead of upon his right side, as is customary; the length of the incision through the soft parts, which, contrary to the view, generally held, that it ought to be freely made, should be, he thinks, limited to an inch and a half, unless the trachea lies deeply, when it is made rather longer; and, again, the incision into the trachea itself, of a half to one inch in length—are not, we submit, borne out by our experience as desirable. The latter opening, especially, would seem to be a short measure, as its size will admit only closely the given tube, while he recommends that, directly the incision has been made, the forefinger of the left hand should be slipped *into* the trachea, and the tube passed in, guided by it; place for this procedure it hardly seems can be afforded. Again, we cannot agree with him that relief from hæmorrhage cannot be relied upon by opening the windpipe, and thereby relieving the turgidity of the cervical vessels through reëstablishment of free respiration; the contrary, on several occasions, having been demonstrated to us, and much testimony is against it, as well as the statement that "it is better, even in urgent cases, to raise the patient to a sitting position, and see if the urgency of the dyspnœa cannot be thus sufficiently relieved to allow the operation to be finished after the bleeding has been controlled." These points, among others selected for criticism from much that is good, clear, and to the point, may seem trivial, but their practical bearing upon the dispatch, accuracy, and even safety of the operation, renders them in reality of importance, especially to those for whom, in their first operations, we suppose the book is intended as a guide.

His rules for the performance of the operation upon cases of syphilis, phthisis, and carcinoma of the larynx, are excellent, and will meet with the approval of laryngoscopic surgeons. In croup and diphtheria, he recommends that, "when the excessive difficulty of breathing is paroxysmal, and the pulse keeps fairly strong, operative procedures should be delayed as long as possible."

"When the breathing is continuously difficult, while the respiratory efforts of the patient are strong, the intercostal spaces being forcibly drawn in, and the inspirations are stridulous, signs which indicate that the membrane is in the larynx, but has not passed down into the bronchi—should these indications increase in severity, the operation ought to be resorted to, and with every prospect of recovery. . . . When the respiration, instead of being violent, is feeble, and the whole appearance, as well as the examination of the patient, shows that the exudation has passed into the large and small bronchi—then, though the operation may be done, it must be considered that the probability of recovery is exceedingly small." These indications afford safe rules for a tracheotomy; and the majority of surgeons of to-day will agree with the author in his recommendation of them, though they will not admit that "no amount of albuminuria need affect the question" in the latter class of cases.

The illustrations of the book are good, especially No. II., and the idea of employing photography for the purpose is new and excellent; in carrying out the idea, we would suggest that more suitable backgrounds should be employed, a detail which would render the pictures much better as works of art.

ART. III.—*Lithotomy: its Sources and its Dangers. Being a Verbatim Report, from Short-hand Notes, of an Inquest held before the City Coroner. With a Preface and Commentary.* By an M. R. C. S. E. 8vo, pp. xxviii.–131. Melbourne: F. F. Baillière, 1876.

IT seems, by the proceedings of a coroner's inquest, of a report of which this volume consists, that Mr. Beaney performed an operation for stone upon a young man in the Melbourne Hospital, Australia, the case terminating fatally. On account of the irritable condition of the bladder, the stone was not measured before cutting; but on making efforts at extraction it was found to be very large, requiring much force to secure its removal entire. It was suggested by some one during the operation that the operator either crush the stone, or resort to the supra-pubic method. Either of these steps he did not think best to take. Some weeks after the death of the patient the body was exhumed, and a *post-mortem* examination made by two gentlemen who seemed to be considerably prejudiced against the operator. Decomposition of the body had advanced to quite an extent, and the seat of the operation presented some appearance of being bruised, with a laceration of the rectum. In view of the decomposed state of the parts it would, we should think, be very difficult to determine just how much of the laceration, etc., was *ante-mortem*, and how much due to the shrinkage and decomposition of the parts after death. The following verdict was rendered:

"That the deceased, Robert Berth, died in the Melbourne Hospital on the 5th instant. We are of opinion that evidence has not been brought before us to prove Mr. Beaney guilty of culpable negligence at the operation. Still, we are of opinion that, had a consultation been held by the honorary surgeons, in all probability other means might have been used in extracting the stone; and we enter our protest against the rules of the hospital being broken."

The compiler of the book is favorable to Mr. Beaney, and suggests that the honorary surgeons were not in the habit of accepting invitations to consult at the operations. As in all like cases, there were two opinions held by the profession of Melbourne, but, so far as we could judge, the majority exonerated Mr. Beaney from blame. We will simply venture the opinion that ordinarily it is better to crush the stone than to resort to much force in extracting it.

ART. IV.—*Transactions of the New York Academy of Medicine.* Instituted 1847. Second Series. Vol. II. 8vo, pp. xlvi.–458. New York: D. Appleton & Co., 1876.

THIS number of the "Transactions of the New York Academy of Medicine" is no less interesting than its predecessor which we noticed some time ago. The body of the work is purely professional, containing none of the proceedings of the Society except the articles as read. The number of articles embraced in this volume is twenty-two, on different subjects, and nearly all are prepared by gentlemen who have attained eminence in the profession. Many of the articles are elaborate, so as to constitute a volume of goodly proportions, making a valuable contribution to professional literature.

Books and Pamphlets Received.—A Contribution to the Treatment of Uterine Versions and Flexions. By Ephraim Cutter, A. M., M. D. Second edition, entirely rewritten. Boston: James Campbell, 1876.

Hay-Fever, or Summer Catarrh: Its Nature and Treatment. Including the Early Form, or "Rose-Cold;" the Later Form, or "Autumnal Catarrh;" and a Middle Form, or July Cold, hitherto undescribed. Based on Original Researches and Observations, and containing Statistics and Details of Several Hundred Cases. By George M. Beard, A. M., M. D., Fellow of the New York Academy of Medicine, etc. New York: Harper & Brothers, 1876.

An Address on Some of the Leading Public Health Questions; with Remarks on the Extent of Swamp-Lands in the United States, and their Reclamation as a Sanitary and Economic Measure. Delivered at the Opening of the Third Annual Meeting of the American Public Health Association, Baltimore, Md., November 9, 1875. By J. M. Toner, M. D., President of the Association.

Report on Vaccination, read before the Ohio State Medical Society, Put-in-Bay, June 20, 1876, being an Inquiry concerning Human Vaccine, Vaccino-Syphilis, and Animal Vaccine. With an Appendix containing Letters from Hélia, Sigmund, Seaton, M. Guerin, Zeissi, Neumann, and Widerhofer. By William B. Davis, A. M., M. D., Professor of Materia Medica and Therapeutics, Miami Medical College, Cincinnati, Ohio.

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Reports on the Progress of Medicine.

REPORT ON LARYNGOLOGY.

No. VII.

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1. Besides the ordinary causes of laryngeal paralysis, a rare one exists, which may affect one or several of the muscles of the larynx, and the cause of which may be referred, without due caution, either to central or peripheral nerve-lesions: the author refers to *trichina spiralis*. Friedrich is credited with having reported the first and (with the exception of the present) only case of the kind, occurring in an acute and severe case of trichinosis. The local appearances presented by Navratil's patient were as follows: The mucous membrane of mouth and larynx pale; the left half of the epiglottis immovable; the motions of the right during respiration and phonation normal; the left vocal cord and arytenoid cartilage fixed and immovable near the median line, while the right, though movable, was

sluggish in its motions. The tension of both vocal cords was imperfect. The patient's voice was dulled, and she complained of dyspepsia and dyspnœa, which latter at times was excessive, and both of which had existed for many years. The pathological cause of the unilateral paralysis of the larynx was involved in obscurity careful inspection and questioning excluded the rheumatic diathesis. *Perichondritis prægressa*, primary or secondary disease of the recurrent laryngeal nerve, or of the pneumogastric, brain lesions, and aneurism, were also differentiated; in short, investigation threw no light upon the cause. The case remained under observation for six weeks, no improvement taking place, and left the hospital, to return several months later, presenting the same symptoms and appearances, which grew rapidly worse. Emaciation and incipient general paralysis being most marked, and in the last eight days impossibility of deglutition—death finally occurred from pneumonia.

A careful autopsy, besides revealing traces of antecedent syphilitic disease, threw no light upon the obscure case, or the cause of the laryngeal paralysis, and it was not until the laryngeal muscles had been subjected to microscopic examination that the cause of the latter was revealed.

To the naked eye, numerous elliptical hard points were visible, which under the microscope were seen to be the calcified capsules of the *trichina* imbedded in the muscular fibres. In the left crico-arytenoideus posticus muscle their number was greater than in the right, while in both thyreo-arytenoidei it was about equal. The author considers the case as one of some interest, not only as a rare contribution to the etiology of laryngeal paralysis, but also as furnishing a new aid to the diagnosis of a chronic and severe trichinosis; for when a laryngeal paralysis is present, the immediate or remote cause of which cannot be determined; when paralysis of other muscles, those of the eye, tongue, etc., coexists without a general paralysis, we have, in connection with the general muscular atrophy, sufficient ground for a diagnosis of trichinosis.

2. Marino agrees with Türck that primitive abscesses of the larynx are rare, while those of a secondary nature are common. Cases of the former are reported by Morgagni ("De Sedibus," etc., lib. ii., epist. 15), Gottstein (*Jahrb.*, cxxxviii., p. 226), Grey (two cases in children), and Scheff. M. advises the early incision of the abscess in order to avoid the danger of suffocation which the patient risks in its spontaneous opening. The case which he reports is briefly as follows: A strong healthy man, after exposure, contracted a sore-throat; five days later he had high fever, chill, aphonia, and dyspnœa, the latter being severe and progressive. A local examination by means of the finger discovered that the epiglottis was rounded up and thickened to double its normal size, while two tumors the size of a hazel-nut, one on either side over the ary-epiglottic fold, reached inward to meet in the median line of the larynx and close its cavity almost entirely. An effort to explore their limits caused the rupture of the one upon the right side, when a large amount of pus was discharged and coughed out. The respiration was immediately improved. The patient refused to have the second abscess incised, and it opened spontaneously during the following night. Speedy recovery and restoration of voice followed.

5. Löri, in his interesting article, publishes the following as some of the facts which he has derived from his experimentation upon the different degrees and kinds of stenosis of the larynx and the trachea:

Strongly-stretched membranes, thickening of one or both vocal cords, neoplasms with a broad base, and paralysis of the crico-arytenoid postici muscles, affect equally both inspiration and expiration. Inspiration is more affected than expiration when the boundaries or limits of the stenosis, usually in the neighborhood of the glottis, lie together, or the swelling of the tissues, neoplasms, or foreign bodies, lie at or near the narrowed point, so that they are aspired or drawn into it during the act. Stenoses of the trachea interfere with expiration more than with inspiration, because during the latter act the tube is rendered shorter and wider, and during the former longer and narrower. In like manner, in stenosis of the larynx, the descent of that organ, the depression of the clavicular spaces, together with that of the intercostal spaces and xiphoid process, is much more marked than in stenosis of the trachea. In the latter condition, therefore, emphysema of the lungs is more commonly found than when stenosis of the larynx alone exists. Double stenoses interfere equally with inspiration and expiration. Change of position, bending or turning of the neck, etc., can cause a change in the lumen of the stenosis, a fact which patients quickly learn and avail themselves of to obtain ease; indeed, he states that patients have been known to stand upon their heads (?) when they have a foreign body, a polypus with a long pedicle, a loose membrane, or some similar condition in the air-passages, in order that some relief may mitigate their sufferings. The article contains also a thorough consideration, amply illustrated with facts and cases, of the etiology, etc., of laryngeal stenoses.

7. The patient, a man, aged thirty-three years, had had an infecting chancre in 1864, followed by several severe attacks of pharyngeal syphilis. In 1865 he lost a considerable part of the velum palati, followed by complete adherence of the posterior wall of the pharnyx to the remains of the velum and isthmus, cutting off all communication between the posterior nares and the bucco-pharyngeal cavity. The detailed description of the condition of the parts is as follows: The anterior one-third or one-half of the velum was affected by the ulceration, and was united to the posterior wall of the pharynx, which was itself the seat of a considerable lesion, as a median cicatrix showed, the result of which was that the palatine arch was prolonged horizontally to the pharynx, and that a membranous diaphragm formed by the *débris* of the velum divided the pharyngeal canal into two parts—one superior, in which were the posterior nares and the Eustachian tubes, and an inferior or bucco-pharyngeal space; the inferior compartment, situated below the palatine diaphragm, was itself subdivided into two parts by an incomplete diaphragm, which was nothing more or less than a new isthmus faucium. It was in a plane directed obliquely backward from the sides of the tongue to the pharynx, where it became united with the horizontal palatine diaphragm. This septum was formed below by the base of the tongue, and laterally by two folds of the mucous membrane which represented the anterior pillars—stretched, widened, and rendered immovable, owing to their attachment to the pharynx. It was pierced at the centre by a triangular opening, the apex of which corresponded with the middle portion of the posterior wall. The portion of the pharynx situated above the isthmic diaphragm is the posterior nares; that below, the pharynx, which communicated by the triangular opening, so that the deglutition was not much hindered. The patient had been treated with iodide of potassium, and there appeared to be no antecedents of scrofula. Mauriac did not consider that any surgical proceeding was indicated—indeed, he thought that it would be worse than useless.

(The extreme rarity of so extensive and peculiar a cicatricial lesion of the pharynx is our reason for giving an abstract of the description of the appearances *in extenso*. In minor degrees the condition is not such a very unusual one.—*Rep.*)

8. Verneuil reports the following interesting case: The patient was a young woman, married, twenty-two years of age, who had contracted syphilis since her marriage, and about a year afterward had suffered great loss of substance of the soft palate, which resulted in a nasal tone of voice,

and painful and imperfect deglutition. After a while the projection of the velum posteriorly became evident, and there were all the signs of closure of the posterior cavity of the nasal fossæ. The patient could not blow her nose or breathe unless the mouth were open. She had intermittent deafness, and examination showed that the velum was completely fastened to the pharyngeal walls. Verneuil decided to operate, and proceeded as follows: The patient was anæsthetized, and the channel which remained between the pharynx and the nasal fossæ was enlarged by a knife. A pair of polypus-forceps was then introduced, and their blades strongly opened, while the lateral adhesions were broken down by means of the fingers. He then placed between the velum and the pharynx an India-rubber apparatus consisting of two lateral tubes, and of a series of transverse smaller ones, the anterior openings of the larger tubes passing out through the nostrils, and the posterior by the mouth, opposite the labial commissures; but it was found necessary to remove the instrument, as after some days specific ulceration showed itself wherever it was in contact. Verneuil had then recourse to progressive dilatation by means of a sound ending in a rubber bag, which was introduced by the the nostrils and inflated. By repeating this process daily, it was hoped to prevent adhesions forming, but the negligence of the patient frustrated the perfection of the idea. Nevertheless, a sufficient aperture was formed by means of which the patient could breathe and blow the nose; the sense of smell returned, and the nasal character of the voice was noticeable only during rapid utterances and in a loud tone. During the subsequent discussion on the case, Championnière remarked that on a similar occasion he endeavored to introduce a hollow sound from behind forward, but, after a two hours' attempt, being unable to do so, he made lateral incisions to effect his object, but, notwithstanding the employment of India-rubber laminæ, adhesion still took place. At a second operation, he cut down with a single stroke into the nasal fossæ behind the velum; the wound healed, but the patient had been forced to wear a silver tube through the nasal fossæ.

11. Laveran communicates the case of a soldier who was attacked with a simple angina, and who after some days' treatment was sent out of the infirmary and had resumed duty. The following morning he had a rigor, and was seized at seven o'clock with an attack of suffocation, and a quarter of an hour afterward died asphyxiated before there was time to perform tracheotomy. At the autopsy the tonsils were found red and tumefied, and the posterior wall of the pharynx and the aryteno-epiglottic folds tumefied and infiltrated; the glottis was normal; the trachea contained some mucus; the other organs were healthy. The author attributed death in this case to occlusion of the glottis by the aryteno-epiglottic folds.

Brouardel has observed an analogous case, but the patient had presented signs of aphonia before the occurrence of the asphyxia.

19. Koch reports the following case: On November 5th he performed tracheotomy on a boy aged three and a half years, suffering from severe dyspnœa, the consequence of diphtheria. The canula was removed on the ninth day, and the case went on well, excepting a paralysis of the œsophagus and larynx. One month later the wound had cicatrized, and the paralysis had disappeared. Within the following two weeks the child had two slight attacks of dyspnœa, and at the end of that time, when seen by the doctor, was suffering with strongly-marked difficulty of breathing, the only cause of which, that could be assumed, was an obstruction of the air-tube, probably at the site of the incision, the result of granular growths in the cicatrix. Tracheotomy was again performed, and four or five pale, flaccid pedunculated granulations, each as large as a pea, were found. After their removal by a Daviel's scoop, respiration went on normally, even when the opening was closed with the finger; the wound was, there-

fore, closed at once. The child appeared cured, but in less than two weeks the attacks returned; dyspnœa occurred whenever he cried, rapidly becoming constant. Tracheotomy was performed for the third time, the operation being attended with considerable difficulty. The following day the trachea was explored with a sound, when a violent attack of cough brought into sight a dark-red bladder, about as large as a cherry, which burst on being seized with the forceps; its pedicle was attached to the mucous lining of the cricoid cartilage, and the same pedicle also supported several granulations, three of which, as large as cherry-stones, were removed.

It was now found that the child could breathe even when the canula was removed, the remaining pedicle being probably so much contracted as not to be capable of producing obstruction.

Dr. Koch remarks, in commenting upon the case, that the granulations in the immediate neighborhood of the tracheal wound appeared to grow exuberantly, and to penetrate into the air-tube. The inspiratory effort must act energetically on the vessels of the granulations, and lead to their distention with blood and œdematous effusion, as was shown by the bladder filled with serum found during the second operation. As regards treatment, he recommends that the canula should be left in for several weeks after tracheotomy for diphtheria, and that the wound should be cauterized several times.

25. Chamberlain remarks that the term laryngeal phthisis, formerly used to include all chronic affections of the larynx, involving ulcerative or destructive changes of its tissues, especially the cartilages, has been shown, since the introduction of the laryngoscope, to be of a much more limited applicability, and that it is not perhaps strictly correct as implying a separate and independent disease, rather than a local manifestation or complication of a general condition. He uses it, therefore, to include all the affections of the throat associated with pulmonary consumption, the same general conditions underlying the changes in the larynx or lung, the dyscrasia striking now at one organ, now the other. A short *résumé* of the pathological nature of tubercle brings him at once to the disputed question, Whether tubercular deposits occur at all in the larynx, or, if so, whether they play an important *rôle* in the production of the laryngeal lesions, or are these all adequately explained by catarrhal or follicular inflammation and ulceration? The answers to this question are very conflicting, and the views concerning the relation of tuberculosis to the lesions in the larynx vary pretty uniformly with the author's opinions concerning the nature of the changes in the lungs, although, strangely enough, Louis, finding no evidence of miliary tubercle in the larynx in any of the large number of cases he examined, attributed the ulcerations to inflammation, which might be caused by the sputa excoriating the mucous membrane. Similar negative testimony is given by Alison, Rühle, and others; on the other hand, Cruveilhier decided the lesions to be non-tubercular from the absence of caseous degeneration. Andral, Laennec, Trousseau, and others of the older writers, considered the ulcerations which occur late in phthisis as undeniably of a tubercular nature, and Hasse carefully demonstrated the similarity of the anatomical elements, which the microscope revealed, to others which were admitted to be tubercular. The views first promulgated by Rheiner have had a very wide acceptance, and undoubtedly are correct in a certain number of cases, while others are incapable of satisfactory explanation in any such way. He describes a catarrhal or follicular inflammation followed by ulceration, attended with a thick cellular infiltration of the mucous and submucous tissues, produced by a rapid multiplication of already-existing elements, the thickened margin of the ulcers caused by serous infiltration (Lebert, "Anatomie Pathologique," p. 594). Mackenzie modi-

fies this by assuming imperfect cellular elements, and a special constitutional condition inherited or acquired. Rindfleisch accepted substantially this view; admitting, however, the presence of tubercular granulations in the larynx, occurring especially where two surfaces are rubbed together, but considered that they acted only as a permanent irritant, the changes being due mainly to inflammation, although in Ziemssen's Cyclopædia he describes a tuberculization of the larynx which is secondary to catarrhal inflammation, and occurs in scrofulous subjects.

Rokitansky and Virchow assign a much more important place to tubercle as a cause of the pathological changes in the larynx; the latter, indeed, recommends this as the best place to study true tubercle, and explains much of the negative testimony by the fact that the granulations so soon break down into shallow ulcerations. Jaccoud ("Anatomie Pathologique"), whose classification is followed essentially by many of the modern French writers (Fauvel, Mandl, Thaon, Eugène, and Boeckel), describes a primary tuberculosis of the larynx with discrete tubercles, and a laryngitis of the tuberculous with infiltrated tubercle. Isambert qualifies this by denying that the two varieties can be separated by any sharply-cut line, still he admits the existence of both classes of cases.

Wahlberg describes the characteristic appearances of tuberculous ulcers, and deposits in the larynx, after a thorough and careful study, and illustrates their minute anatomy in a series of beautifully-executed microscopical drawings. The same elements that characterize tubercular deposits elsewhere are found here; a granular centre surrounded with cellular infiltration, the round lymphoid cells, giant-cells, and indifferent cells, all imbedded in a reticulated network; this infiltration occurs alike around the nodules which have not yet broken down into ulceration, and around the margins and base of the ulcers. The epithelium over the nodules is changed from the normal ciliated variety into pavement epithelium. The network of capillaries which surrounds the ducts and their glands explains the more frequent occurrence of cellular infiltration around them, as this is produced by wandering cells from the blood-vessels. Tubercular nodules are also found where the glands and their follicles are still normal, thus excluding any invariable connection with catarrhal or follicular inflammation (Stricker's "Medicinische Jahrbücher," 1872).

Chamberlain, personally, considers the affections of the larynx accompanying phthisis as divisible into two classes: 1. The tubercular, characterized by the presence of tubercles, either primarily or secondarily; and, 2. The non-tubercular, including those which present no evidence of the presence of tubercles at any stage of their progress, but which are, nevertheless, decidedly characteristic. A description of the subjective and objective symptoms of the first class of cases follows, which is excellent, and well worth careful study. The earliest indications of implication of the larynx, constituting what might be called a pre-tubercular stage, as it is almost pathognomonic, are a marked and general anæmic condition of the membrane of the larynx, sometimes extending to the pharynx, soft palate, and uvula, and, if the similar appearance presented in cases of general anæmia, and sometimes accompanying uterine derangements, be differentiated, the condition is of marked value from a diagnostic point of view. The aphonia, which also occurs as a symptom of incipient tubercular disease in the lungs, without any implication of the larynx, is apparently caused by a reflex irritation of the laryngeal nerves, due to disturbance of the peripheral branches of the pneumogastric by the tubercular processes in the lungs; the tensor muscles are the ones affected, and here a differential point in diagnosis is given between this form of aphonia and that due to hysteria, where the adductor muscles are at fault. Following the stage of anæmia, there occurs a deposition of yellowish nodules, about the size of a pin's-head, with a glistening surface, most abundant in the upper and posterior portions of the larynx. Some congestion and tumefaction occur, which increase as the nodules break down into ulcerations, but never become marked. These ulcerations are irregularly circular in outline, usually multiple, exhibit a marked tendency to spread and unite with adjacent ulcerations, and are covered with a muco-purulent secretion. If they continue, they involve the deeper tissues, and then congestion and tumefaction become more marked. The second class of cases are characterized by great tumefaction and congestion, without any evidence of tubercular deposit or ulceration. Sometimes the epiglottis is principally involved, at other times the tumefaction is confined to one side of the laryngeal opening.

In scrofulous cases there is often a similar swelling of the epiglottis and upper portions of the larynx—this, however, seems to be caused by a thickening of the sub-mucous fibrous tissue; these cases are of long duration, and generally end with secondary tubercular ulceration; the membrane of the larynx, on inspection, is pallid and almost white, but differs from anæmia in its glistening appearance, and the tumefaction that accompanies. This sub-mucous fibrous proliferation also occurs in syphilis, and is occasionally fatal from obstruction; the diagnosis sometimes is difficult, as mercurials which might aid to establish it are contra-indicated in phthisis. Cancerous affections are much more easily distinguished; the lesions of syphilis more closely resemble those which accompany phthisis.

In still other cases, after a well-marked stage of congestion and tumefaction, the latter not so excessive as in the form just described, ulcerations occur upon the vocal cords or near their posterior insertion, also on other portions of the larynx as well as upon the epiglottis. These ulcerations involve the deeper tissues, and are sometimes accompanied with severe burning pain. They are often secondary to tuberculization of the larynx from inflammation, and attended with grayish nodules which show distinctly through the congested membrane.

The treatment should be local, general, and climatic. Direct applications with the laryngeal brush of astringent and stimulating solutions, applied regularly at short intervals, with the direct spray, and inhalations of gases or medicated vapors, are serviceable. Strong caustic applications are to be avoided, and are only exceptionally of use; as a rule they are of doubtful utility, and produce more or less discomfort. The application to the larynx, by brush, of opiate solutions, bromide of potash in glycerine, or the insufflation of morphine in sugar of milk, and the like, often give the most decided relief. Painting the epiglottis and upper portions of the larynx with olive-oil is useful, and often renders swallowing of food possible and easy, when otherwise attended with the greatest difficulty and pain. Iodine dissolved in olive-oil, as recommended by Marcet, gr. x—xx to the ounce, can be used with benefit, even in the later stages, while externally for absorption, not counter-irritation, it is decidedly useful, especially when there is enlargement of the tracheal glands. The free use of opiates in the later stages is to be regarded as a matter of course.

Chamberlain's paper is based on the histories of fifteen cases, of which nine were males and six females. The greater number were between twenty and thirty years of age; the oldest forty, youngest eighteen. There were ulcerations in the larynx and upon the epiglottis in ten cases, involving the vocal cords in five, and tubercular deposits in nine. In nearly all, the lungs gave evidence of tubercular deposits sooner or later, while in none of the fatal cases was there any favorable influence apparently exerted on the pulmonary disease by the laryngeal complication, but decidedly the reverse.

27. Hamilton's paper is a valuable contribution to the literature of the

subject, and deserves attention. He records twenty-one cases of foreign bodies in the air-passages, which he divides into three groups. The first comprises four cases, and in all four the foreign body was removed in a fit of coughing. This fact emphasizes the point that, when the foreign body is known to be quite small, or soft, flat, and irregular, so that it is susceptible of being further softened and enveloped by the viscid secretions of the air-passages, it is so slightly irritating and so well adapted for spontaneous expulsion, that an operation is inadmissible. The second group comprises two cases in which the body was irregular, and its movements and relations could not be well estimated: in one case the patient, a child, died suddenly, and the foreign body was found at the autopsy in the larynx; in the other, a woman inhaled a shirt-button with a pin stuck in it. No marked symptoms were excited, and after a few weeks the button was coughed up, followed after a few months by the pin. The third group includes fifteen cases. In all of them the foreign body was smooth, hard, and round in outline. In three of the cases no operation was performed; one patient died of broncho-pneumonia in seven days, and the other two coughed up the foreign body after several weeks, and recovered. In the remaining twelve patients there were thirteen operations, the foreign body being found in most cases at rest in the right bronchus—never fairly in the left. In six cases the body was expelled at once, and in the rest from one to seventy-two hours.

Where the body remains without motion in the bronchus after the operation, the doctor recommends that the patient be kept within reach; for, sooner or later, some movement will put it in motion, and then, in simply dilating the opening, expulsion will take place.

Only one case died of broncho-pneumonia, and this had existed before the operation; the patients were all under seven years of age, and the foreign bodies had been in the air-passage from two hours to ninety-six days. On adding these cases to a number tabulated by Dr. Weist, in which the foreign bodies were similar to those in our third group, we find that, out of forty-five cases treated without operation, fourteen, or thirty-one per cent., died, while, out of forty-six treated by operation, twelve, or twenty-six per cent., died, a difference of five per cent. in favor of the operation.

These figures prove the incorrectness of the opinions, so widely spread among medical men, that foreign bodies in the air-passages absolutely demand operation, and that the cases are of such emergency as to preclude sending a long distance for competent surgical aid.

28. Two interesting cases of extraction of a foreign body from the trachea are reported by Schmidt:

The first was a man of twenty-seven, who had about nineteen months previously swallowed a bit of bone; with the exception of some slight difficulty in respiration, it had caused him no inconvenience whatever; indeed, he was a singer. Schmidt discovered the discolored foreign body a little below the middle of the trachea, lying in an antero-posterior direction. It was seized by means of a forceps constructed for the occasion, but could not be removed, until at one of the repeated trials it broke, when the two fragments were easily coughed out of the trachea; the bits being placed together, the bone was found to be twenty-two millimetres long and broad, and fifteen millimetres thick.

The second case occurred in the person of a young girl, who had severed the trachea immediately below the cricoid cartilage for suicidal purposes. The wound had completely healed, with the exception of an opening for the tracheotomy-tube, which had been left in position. While the latter was being cleaned, the fish-bone rod which was used slipped into the trachea. Schmidt discovered its location on the anterior tracheal wall by means of a tracheal mirror, seized it with forceps as it appeared at the tracheal wound during a fit of coughing, and removed it.

38. Nasal bougies made of *gelatine* and medicated commonly with alum, sulphate of copper, rhatany, carbolic acid, etc., have been lately introduced at the laryngoscopic clinic in Vienna, and their use has been attended with great success. They are a little over three inches in length, and from one-eighth to one-quarter of an inch in diameter, pointed at one end so as to be more easily introduced. Hitherto the treatment of nasal disease has been confined to injections of tepid water and solutions of different drugs, and applications of caustic to the nasal mucous membrane by means of *porte caustique*, the latter of which methods causes intense pain when the mucous membrane is swollen and the meatus is narrow. Further cauterizations cannot be employed sufficiently often. The introduction of the nasal bougie, on the contrary, is not at all painful; the elastic body adapts itself to every irregularity in the nasal cavity, passes very easily through the narrowest parts of the meatus, and dilates them by gentle pressure. These bougies have been used in cases of coryza and ozæna, and with great success in cases of extensive swelling of the nasal mucous membrane and of the turbinated bones. If there is total obstruction of the meatus, and air cannot be drawn through the nostril, the introduction of the first bougie often effects great improvement. In cases of ozæna, sulphate of copper and carbolic acid are the most useful agents; but, where there is extensive swelling and relaxation of the mucous membrane, the tincture of rhatany is to be recommended. Sulphate of zinc is not much used, for, according to Störk's experiments, solutions of this drug, when they are only injected into the nose, destroy the power of smell. There is no difficulty in introducing the bougie; it is advisable to give it a rotatory as well as an onward motion during introduction. Even in the most obstructed meatus, it is possible to introduce the bougie completely and in any direction; afterward the nostril is plugged with lint, to prevent the liquefied gelatine escaping by any other orifice than the posterior nares. When there is much secretion present the gelatine may liquefy in three-quarters of an hour, but it usually takes three hours. It causes no unpleasant sensation while in the nose, and it is useful, not only in applying medicaments to the mucous membrane, but in keeping the meatus dilated.

39. In the July number of the *Practitioner* we find an additional report upon the treatment of quinsy sore-throat based upon the answers of twenty-four physicians, mainly in the United States and Australia. In the first return (published some time since) guaïacum held the position of first choice as a remedy in the treatment of the affection. In the present return aconite is the favorite, with chlorate of potash second. As regards local applications, out of the twenty-four, gargles of chlorate of potash and poultices are the favorite measures, each having ten advocates. For the relief of the pain, fomentations, opium, steaming, and the external application of iodine, have the most supporters. For the swelling in the throat four speak of ice, two of scarifications, and two of Dover's powder. As to surgical interference, ten resort to opening the abscess, six say that it is rarely needed, while two recommend it to be done at once. Scarifications are spoken of with approval by five, while three decline all surgical interference. One thinks emetics useful, while another uses London paste instead of the knife, and one advises tracheotomy (?).

40. Pick supplements Sommerbrodt's observations with a history of the case of a teacher, sixty-five years old, who, in consequence of a most marked *pharyngitis granulosa*, had great difficulty in deglutition, the latter symptom disappearing as the former condition was relieved; the patient complained of the constant presence of thick, tenacious mucus

between tongue and posterior pharyngeal wall, could only swallow by great effort, and then regurgitated all hard food almost immediately. Pick considered the cause of this difficult deglutition as being due to spasmodic contraction of the pharyngeal constrictor muscles.

Miscellany.

The International Medical Congress.—The meeting of this body held in Philadelphia last month was in every respect a most gratifying success. The Congress was representative of some of the highest professional talent of the most civilized nations of the globe, and the proceedings were marked throughout by harmony and good feeling, and by a determination to make the best possible use of the few days devoted to friendly business intercourse. The good results of the Congress cannot be estimated by the actual work done during the session, large and satisfactory as it was. For many years to come the personal association of so large a number of distinguished members of the profession will exert a benign and stimulating influence on every department of medicine and surgery, and be the means of disseminating broader and more liberal views among the rank and file of a class of hard-working men, whose calling is of all others the most thoroughly cosmopolitan in its aims and aspirations.

The Transactions, when published, will constitute a volume of peculiar value and interest. The Committee of Arrangements performed their difficult task with excellent judgment, and deserve much credit for their labors. The appropriate choice of Prof. Gross as President must have been as gratifying to that gentleman as it was acceptable to all concerned.

Stevens Triennial Prize, 1879.—This prize, established by Alexander H. Stevens, M. D., amounts to two hundred dollars. The questions for 1879 are as follows:

1. "Bacteria and Kindred Organisms in their Relation to Disease."

2. "Human Excreta, as a Cause of Disease: the Diseases

produced therefrom, and their Prevention by Hygienic Means."

The competing essays, on either of the above subjects, are expected to give an account of our present knowledge, and also the results of personal investigation. The essays must be sent in to the President of the College of Physicians and Surgeons, New York, on or before the first day of January, 1879. Each essay must be designated by a device or motto, and must be accompanied by a sealed envelope, bearing the same device or motto, and containing the name and address of the author. The envelope belonging to the successful essay will be opened, and the name of the author announced, at the annual commencement of the college in March, 1879. This prize is open for universal competition.

J. C. Dalton, M. D.,
Secretary of the Committee.

The American Gynecological Society.—The first meeting of this Society was held in the rooms of the New York Academy of Medicine, September 13th, 14th, and 15th, and we do not know of any instance where a new society has been inaugurated under more favorable and promising auspices. As will be seen by our report of the proceedings, a large number of distinguished gentlemen gave the results of their experience, and took part in the discussions that ensued. The presence of Prof. Barnes, of London, added materially to the interest of the meeting; and, under the presidency of Prof. Fordyce Barker, it is safe to predict for the Society a bright and prosperous future.

The Spirophore.—Dr. Woillez, of Paris, has devised an apparatus for the treatment of asphyxia. It consists of a zinc cylinder in which the body of the patient is hermetically inclosed, the head alone projecting. A portion of the air in the cylinder is then exhausted, when the lungs immediately expand, and air is then pumped into the cylinder to cause expiration. The process is repeated at brief intervals.

Death from Chloral.—The *Lancet* of September 2d reports the death of a Presbyterian clergyman from a moderate dose of chloral taken to procure sleep. The dose is not stated precisely, but its effect proved fatal on a system already much debilitated by disease, and by the habitual use of the drug.

The International Congress of Ophthalmology.—We regret that we have not space for a report of the proceedings of this Society, which held its meeting in this city, September 12th, 13th, and 14th. The Congress was fully attended.

An Abortionist sentenced to Death.—At Leicester, England, July 10th, Cornelius Asher, aged seventy-seven years, was sentenced to death for a fatal attempt to procure abortion.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 14 *to September* 13, 1876.

Smyth, J. R., Surgeon—and

Woodward, J. J., Surgeon.—Designated to represent the Medical Corps of the Army at the International Medical Congress at Philadelphia, September 4, 1876. S. O. 176, A. G. O., August 25, 1876.

Alden, C. H., Surgeon.—Assigned to duty as Post-Surgeon at Fort Townsend, W. T. S. O. 112, Department of the Columbia, August 25, 1876.

Byrne, C. C., Surgeon.—Assigned to temporary duty with troops encamped on site of new post on Yellowstone River, M. T. S. O. 106, Department of Dakota, August 30, 1876.

Sternberg, G. M., Surgeon.—Assigned to duty as Post-Surgeon at Fort Walla Walla, W. T. S. O. 112, C. S., Department of the Columbia.

Wolverton, W. D., Surgeon.—Assigned to duty as Post-Surgeon at Standing Rock Agency, D. T. S. O. 106, Department of Dakota, August 31, 1876.

Happersett, J. C. G., Surgeon.—Assigned to duty as Post-Surgeon at Fort Hamilton, N. Y. H. S. O. 157, Division of the Atlantic, August 16, 1876.

Billings, J. S., Assistant Surgeon.—Granted leave of absence for three months, with permission to go beyond sea. S. O. 182, A. G. O., September 2, 1876.

Buchanan, W. F., Assistant Surgeon.—Assigned to temporary duty at these headquarters pending his summons as a witness before a general court-martial. S. O. 161, Department of Texas, August 29, 1876.

Carvallo, C., Assistant Surgeon.—Assigned to duty at Fort Union, N. Mex. S. O. 184, Department of the Missouri, September 4, 1876.

Girard, J. B., Assistant Surgeon.—Assigned to duty as Post-Surgeon at Fort Wayne, Mich. S. O. 171, Division of the Atlantic, August 31, 1876.

Maus, L. M., Assistant Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 132, Department of the South, September 2, 1876.

Price, C. E., Assistant Surgeon.—To accompany battalion of Fourth Artillery to Cheyenne, Wy. T. S. O. 111, Division of the Pacific, August 11, 1876. And to continue on duty with that command. S. O. 115, Division of the Pacific, August 17, 1876.

Corbusier, Wm. H., Assistant Surgeon.—Assigned to duty at Fort Macon, N. C. S. O. 133, Department of the South, September 5, 1876.

By S. O. 178, A. G. O., August 26, 1876, the following changes of stations and assignments are made:

Randolph, J. F., Surgeon.—Relieved from duty in Department of the Platte, to proceed to Philadelphia, and, on arrival, report by letter to the Surgeon-General.

The following officers are relieved from duty in the department they are now serving, ordered to New York City for examination for promotion by the Army Medical Board, and on its completion report by letter to the Surgeon-General:

De Graw, C. S., Assistant Surgeon.—Department of Texas.

Gardner, W. H., Assistant Surgeon.—Department of the Missouri.

Jessop, S. S., Assistant Surgeon.—Department of the Missouri.

Miller, G. McC., Assistant Surgeon.—Department of Arizona.

Moffatt, P., Assistant Surgeon.—Department of the Missouri.

Tremaine, W. S., Assistant Surgeon.—Ordered before Army Medical Board, New York City, for examination for promotion, and on its completion rejoin his station.

Harvey, P. F., Assistant Surgeon.—To report to the commanding general of the Department of Dakota for assignment.

McElderry, H., Assistant Surgeon.—On expiration of his leave of absence, assigned to duty at Fort Monroe, Va.

Girard, J. B., Assistant Surgeon.—On expiration of his leave of absence, to report to the commanding general, Division of the Atlantic, for assignment to duty.

Jackson, D., Assistant Surgeon.—Relieved from duty in Department of Texas, and ordered to Military Division of the Atlantic.

The following-named Assistant Surgeons (recently appointed) will report for duty or assignment as follows:

Gardner, E. F.—To commanding officer at Willet's Point, N. Y. H., for temporary duty.

Corbusier, Wm. H.—By letter to commanding general of the Department of the South.

Buell, J. W.—To accompany first detachment of recruits to Department of Texas, and on arrival report to the department commander for assignment.

Shufeldt, R. W.—To commanding officer of Fort McHenry, Md., for temporary duty.

Appel, D. M.—To commanding general of the Department of the Missouri for assignment.

Andrews, W. C. C.—To Superintendent of the Mounted Rec. Service for temporary duty at St. Louis Barracks, Mo.

Cuningham, Thomas A.—By letter to commanding general of the Department of Dakota for assignment.

Burton, H. G.—In person to commanding officer of the Department of Arizona for assignment.

Ainsworth, F. C., Assistant Surgeon.—His resignation accepted by the President, to take effect November 10, 1876. S. O. 182, A. G. O., September 2, 1876.

Hoff, A. H.—Assistant Surgeon.—Died at Germantown, Pa., on August 19, 1876.

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Original Communications.

ART. I.—*The Induction of Premature Labor by an Interrupted-current Douche of Hot Water.* By S. A. RABORG, M. D.[1]

THE important and very thorough papers read before the obstetrical section of the New York Academy of Medicine last year, by Prof. Isaac E. Taylor, on "What is the Best Treatment in Contracted Pelves?" are still fresh in the minds of the profession. As these referred entirely to the character of procedure in operating when the physician finds himself with a case of contracted pelvis at full term, I desire to place before you some views and experience in cases where the deformity is known to the practitioner in the early stages of pregnancy. The best writers, both in the Old and New World, now assert that, under such circumstances, the duty of the medical attendant is to produce premature labor at such period as will conduce with greatest certainty to the safety of both mother and child. This being decided, it becomes a matter of serious consideration to appoint a time beyond which the mother cannot with safety to either pass through labor.

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[1] Read before the County Medical Society, September 25, 1876.

It is easily seen that this must differ in almost every case, as the size, shape, and deformity of pelvis, as well as the apparent size, weight, sex, and condition of child, must be carefully studied to arrive at a proper conclusion. An important element of success, also, in performing any operative procedure affecting childbirth, where haste is not a necessity, is to do so gradually and with as little instrumental interference as possible; in other words, to make the labor simulate, as near as is in our power, a natural effort at term.

Cases requiring the induction of premature labor should be divided into two classes:

1. Those where the life of the mother or child, or both, is in immediate and pressing danger.

2. Those where the mother cannot, with safety to herself or the child, go to the full term of natural pregnancy.

The first class includes puerperal convulsions, hæmorrhages from placenta præviæ, or other causes; threatened death of mother from heart-disease, phthisis, or other trouble, where the fœtus still shows vitality, etc.

In the second class are:

1. Malformation of the pelvis where the antero-posterior diameter is as much as two and three-quarters inches.

2. In cases of women who, from some disease in placenta or other cause, are in the habit of having dead children if allowed to go to full term.

3. Where the pelvic diameters are decreased by abnormal growths.

4. Excessive and exhausting vomiting.

5. Heart-disease of the mother, where the serous infiltration of the tissues is so great as to threaten the lives of both.

6. Renal disease, threatening puerperal convulsions, or renal derangement of so marked a character as to load the urine with albumen.

7. Excessive amniotic dropsy.

Regarding the first class, undoubtedly the duty of the practitioner is to use whatever means of delivery promises to be most rapid, and at the same time offers the greatest chance of safety to both.

When, however, we approach the consideration of treatment, or surgical intervention in the second class, the case is materially altered.

Here there is no immediate danger, no excuse for rashness or haste. Cazeaux, in speaking of this subject, says: "The best operation is that which is the most uniformly and rapidly successful, at the same time that it affords the greatest security to both mother and child." This aptly applies to the first class, but not to the second. Nature does not perform this work in a short time. We know that at term there is always a preparatory stage of a week or more: then why not try to reach an operative procedure which will, as near as possible, imitate natural labor? Many measures have been proposed for this purpose, having in view the fact that less risk would attend premature delivery if it could be induced without absolutely passing into the confines of the uterus with surgical or other means. In the earlier times bleeding was advised; afterward stimulating the womb by reflex action —by mustard-plasters and blisters over breasts. Scanzoni recommended the application of gum-elastic cups over the breasts. Then came external manipulation over the abdomen to excite uterine contraction; and, again, ergot had its day. But probably the person who more thoroughly appreciated the position than any other was Prof. Kiwisch, of Wurtzburg, who, in 1846, introduced the use of the vaginal douche by an injection-pipe, closely resembling the one now sold in the stores called the fountain-syringe. His plan is known to you all. He entered the nozzle of the syringe high up in the vagina, and directed a steady current of hot water against the os for some minutes. This was repeated at intervals, until the muscular coat of the uterus was excited to contraction. Many modifications of this operation have been attempted.[1] "M. Blot on several occasions even inserted the canula into the neck, so that the jet reached and detached the membranes. This is well calculated to bring on labor within a very short time." The practice of Tyler Smith in using alternately the cold and hot currents of water has never been received favorably in this country; it certainly would suggest danger by shock to the nervous system, and to a delicate constitution the rapid change from one extreme of temperature to the other might be productive of the worst consequences.

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[1] Cazeaux, pp. 1011.

"Dr. Cohen, Dr. Leopold Harting, and Dr. Stultz, introduced a small tube through the os uteri, and directed the stream of water between the walls of the uterus and the membranes. Twenty-three cases have been recorded by them."[1]

During the last six years I have performed on the same patient the operation of Kiwisch once, and twice a modification of his method by substituting an interrupted current, as is caused by the Davidson syringe.

My purpose to-night is to mention as briefly as possible the notes of two of these cases, and then demonstrate as fully as I can the advantages of the interrupted current in producing a character of labor which simulates very much the natural effort at term. I will first give a synopsis of the accouchements of the mother of the lady above referred to:

Mrs. H., the mother, from her husband's account, was a brunette of medium size, in good health when he married her, and gave birth to her first child when she was twenty-five years old. The history of the labors of this lady is very vague, but I will recite it as it was given to me. The first child was a boy, and, in order to deliver him, her physician was obliged to perform craniotomy first, and then version. One year later a second child was brought into the world in the same way. Thirteen months from this period she had a miscarriage of some four months. Sixteen months after this, a small girl child, born with instruments and supposed to have been dead *in utero* a month before delivery. A year and a half later, another male child was destroyed and then delivered. The sixth child, a girl, and my present patient, was born prematurely and safely at seven months.

The birth was not hastened by any interference of her medical attendant, and the mother was not aware of any reason for the early delivery of the child. The babe weighed, after it had been wrapped up in flannel, only two and a half pounds, according to the statement of the father, but I presume this must be an exaggeration. About twenty months after the birth of this little girl, Mrs. H. had a seventh child, a boy, which was destroyed and taken from her. An hour after the operation, the unfortunate lady died of hæmorrhage and exhaustion. The only child she left, the little girl above referred to, grew up to womanhood, and at the age of eighteen and a half years married a Mr. L. Ten months after her wedded life began, a distinguished German physician was called to attend her in labor. He found a contracted pelvis, and, seeing that a natural delivery was impossible, he performed craniotomy and afterward version.

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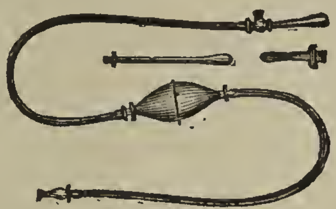
[1] Churchill, "System of Midwifery," pp. 308.

In the latter operation he fractured one leg and one arm of the infant, and finally succeeded in delivering it, but at the same time rupturing the entire perinæum into the rectum of Mrs. L. Before the child was delivered the lady had several puerperal convulsions. She was confined to her bed for three months after this delivery; her urine was drawn from her with a catheter for over two weeks, and for a long time, until the formation of cicatricial tissue, she had no power over the sphincter ani. Ten months later she had a miscarriage of eleven weeks. The third pregnancy culminated thirteen months after this miscarriage, when a daughter, still alive, was born with forceps. This child was very small, weighing about five pounds. Twenty-one months later she successfully delivered, without surgical intervention, a very small boy, weighing a little over four pounds. This child also lived. Two years and one month later her fifth child, a boy, was destroyed and delivered.

About fifteen months after the last birth I have recorded, Mrs. L. called on me and stated that her physician, who had taken charge of her through her five previous pregnancies, had gone abroad, and she desired to place herself under my care, and gave the above history. Upon examination I found her to have the following proportions: height in stocking-feet, fifty-nine and a half inches, or half an inch less than five feet. Assisted by Prof. F. N. Otis I made a careful examination of the diameters of the pelvis, and found the antero-posterior or sacro-pubic diameter, by the fingers, measured only two and a half inches; but, using King's pelvimeter, this could be made to register two and three-quarters inches, but by so doing the patient seemed to suffer much pain. The transverse diameter measured just about the same (namely two and three-quarters inches with pressure of pelvimeter); the oblique diameter measured also about two and three-quarters inches. She had consequently a uniformly-contracted pelvis. The difficulty was evidently in this case confined to the superior strait. The pubic bones were firmly knit together, and the rim, or top, of the pelvic basin seemed to go from this union in quite an acute angle. The external measurement between the tuber ischia was four inches. After confinement I found that Mrs. L. had a measurement around the hips, bringing the tape-line from behind to the front and just below the crest of the ilium, of thirty-two and a half inches; and below, around from behind by tuber ischia to pubis in front, of thirty-four inches. Her physical condition was any thing but promising. She was anæmic, with haggard aspect, her pulse weak; a decided amount of albumen was found in her urine when examined by heat and with nitric acid; and the most remarkable of her symptoms was a constant disposition to syncope; in fact so great was this that she would faint away eight to ten times during twenty-four hours, and remain insensible from five to twenty minutes during each attack. She told me she surely would die with the birth of this child, and her fear and anxiety were pitiable to witness. I felt at once the responsibility of such a case, and the discretion and judgment necessary to extricate the lady from her perilous condition. I, however, encouraged her as well as I could, and gave her a tonic of mur. tinct. iron, gtts. x, and quinine sulph., gr. ij, every three hours in simple sirup. This was about the end of December, 1870. By calculation from the date of the commencement of her last menstruation, her eighth month would terminate the 4th of the next month (January, 1871). Prof. F. N. Otis saw her with me the next day, and we determined upon the induction of premature labor, commencing on the latter date. Feeling the necessity here of being very cautious to avoid nervous shock, we determined to use a simple douche three times a day, and, thinking that probably an interrupted current, which could be pro-



duced with a Davidson syringe, would be more apt to bring on gentle uterine contractions than the continuous current of Prof. Kiwisch, this course of action was determined on. At eleven o'clock in the morning of January 3, 1871, Dr. Otis met me at the house of patient. We allayed her fears by showing her the Davidson syringe and explaining the douche to her, and assuring her we did not intend to use any other instrumental means to effect her delivery; that the labor would be brought on so gently, it would seem as if it was the work of Nature, but that she must not expect the advent of her babe under a week.

A preliminary examination showed the os high up and rigid; the point of the index-finger could, however, readily pass through it, and a vertex presentation was determined. The vagina was quite dry. She was then placed by her nurse in position, in bed, on a rubber cloth, the ends of which were brought down into a large tub; her hips rested on the extreme edge of the bed, and her feet on the sides of the tub. Her head was kept moderately high by three pillows tucked under the rubber at her back. A bucket containing two gallons of water, of temperature 100° Fahr., was then placed in the tub, and after oiling the long tube I inserted it and gave her the douche of this quantity against the posterior lip of os. After this about an ounce of olive-oil was thrown high up in vagina, to counteract the extreme dryness apt to result from so hot a douche. She bore the operation remarkably well. She was then advised to get up and walk about, and, if she felt well later in the day, to take a short ride. Her diet was made generous, but of easily-digested material. At 9 P. M. I saw her again, and found her very comfortable. She complained that "during the afternoon she had had constant bearing down, as if she wanted to go to stool." The douche was repeated in the same manner, and the patient allowed to retire for the night.

Thursday, January 4th, 1 P. M.—Was detained from Mrs. L. until this hour by case of labor. Found her comfortable; she had occasional pain low down in back. Os less rigid, dilated to size of silver quarter. Gave douche of two gallons, and advised her to move about freely. 5 P. M.—Mrs. L. seemed somewhat exhausted, ordered milk-punch; condition otherwise the same. Repeated douche. 10 P. M.—Os more dilatable, but hardly any pain; again gave douche.

Friday, January 5th.—At 11 A. M. found Mrs. L. somewhat irritable about pains she frequently had in back, "little trifling things," as she expressed it, "such as she always had for two or three days before labor." Gave douche, but increased temperature to 110° Fahr., and all subsequent ones were of this temperature. She at first complained of the excessive heat, but only for a minute or two. During this douche she had two quite severe pains. I should have stated that on all these days she continued to have her fainting-attacks, but not more than five or six in twenty-four hours since she had been taking her tonic. She never had one while she was receiving the douche. 5 P. M.—Same condition; gave douche. 10 P. M.—Found Mrs. L. restless and nervous; had fainted twice since my last visit; constant pains in small of back, and frequent desire to micturate. During the afternoon it had grown intensely cold, and she seemed to feel it. The os more dilatable, and bag of waters pressing down to some extent. I introduced my finger and swept it around the lower segment of uterus, separating to some extent the membranes. This was the only mechanical interference on my part in this case. Gave douche. 12½ P. M.—Called suddenly to my patient; found she had had a nervous rigor. I questioned her closely; she had no disagreeable head-symptoms, no puffiness of the face, no derangement of vision, but there was considerable œdema of lower limbs. Prof. A. Flint, Jr., had examined her urine, and found a good deal of albumen, but no indication of positive renal trouble. Gave her a warm brandy-punch, and she soon went to sleep.

Saturday, 6th, 11 A. M.—Mrs. L. dressed and walking about room; feeling in better spirits and looking bright and cheerful. Os dilated to size of half-dollar, but with a rigid "whip-cord"-like edge, otherwise condition the same; pains constant, but not of a character to effect much benefit. Douche. 4 P. M.—Again douche. 10 P. M.—Bag of waters pressed lower down, but os still rigid. Douche.

Sunday, 10 A. M.—Pains more frequent, but still not positive in character; Mrs. L., however, feeling well; at each visit she says she "is counting the hours to terminate her week." Os not quite so rigid. Gave douche. 4 P. M.—Douche. 10 P. M.—Pains more positive in character; waters pressing down; vagina full of secretion; os giving way, and every indication of labor. Repeated douche for the last time and ordered patient to retire and try to obtain some sleep.

Monday, 11*th*, 11 A. M.—Pains severe; membranes ruptured during one of these, and the fluid escaping in large quantities; the os dilated to size of silver dollar, but thick, hard, and unyielding; ordered patient to bed, and had her nourished on wine, beef-tea, and milk. Having determined from the first not to interfere unless there was some pressing danger, and as she had steadily improved in general health from the time she commenced to take the tonic, Nature was left to do her own work. 6 P. M.—Hard labor commenced, but it was well borne. The head remained fixed in the bony strait of the pelvis for two hours, and I greatly feared I would be obliged to apply forceps, but finally, about 11¼ P. M., I succeeded, by pressure above the pubes of the mother, in assisting her during one of her severe pains, and had the pleasure of seeing her give birth to a plump boy weighing five and a half pounds. The placenta came away without unusual trouble, and the patient was left comfortable and happy an hour after the birth of the child.

Tuesday, 12 M.—Mrs. L. in excellent condition; says "she never has felt so well after any of her previous confinements." She has passed her urine twice; pulse 80; hæmorrhage about natural. Condition of child good; has passed both urine and fæces twice. It is useless to pursue the subject further. Mrs. L. made a happy recovery, without a trouble of any character to mar it. Her milk appeared on the third day, and she nursed her boy, who grew finely, and is well and strong to-day.

It will thus be seen that in five days and twelve hours this delivery was effected with hardly any inconvenience to the mother, and perfect safety to the child, by the simple Davidson syringe throwing an interrupted current of hot water.

Mrs. L. continued my patient, and again became pregnant about the 18th of October, 1873. This would make her mean time for delivery about the 20th of July, 1874. Her physical condition during this pregnancy was much better than the last. Digestion good, bowels regular; constant examinations of urine showed only a trace of albumen, and she had none of the fainting-spells. Her mind also was at ease, as, after her last comparatively easy delivery, she felt under my care safe for the future. The pregnancy progressed favorably, and in consultation with Prof. Otis it was again determined to allow her to go to the termination of the eighth month. This would be between the 18th and 20th of June. About the 10th of that month I made a preliminary examination, and found a very rigid os, high up, and almost completely closed. Gave her a small dose of extract of belladonna three times a day.

Thursday, June, 18, 1874.—Met Dr. Otis, at 1 P. M., and we found the belladonna and a laxative she had taken had had an excellent effect in relieving the rigidity of the os, as it was much softer, and readily admitted the index-finger. In approaching this second operation, I had determined to use the continuous carrent of hot water from a fountain-syringe, as advised by Kiwisch. For this purpose, had constructed a tin can with tight cover, and capacity of over two gallons. From the bottom of this was inserted a tin tube so arranged that the flow of water could be controlled and its force increased or lessened at pleasure. Over this tube the long rubber one was attached and then the can lifted three feet above the level of the bed by means of a light rope and pulley attached to the ceiling. Feeling so much in favor of the interrupted current, and for fear I might be prejudiced, made up my mind to give the continuous current the same opportunity the interrupted had had with last labor. After everything was arranged we gave the first douche of two gallons of water, at 110° Fahr. This was borne well, but, when the olive-oil had been injected and the patient allowed to rise, she was attacked by sudden weakness, and we were obliged to give her some stimulant. After this she was sent out in the open air. 5 P. M.—No appreciable change in os; patient comfortable; gave douche. 11 P. M.—Os seemed more dilatable and softer; gave douche.

Friday, 19*th*, 10 A. M.—Mrs. L. doing remarkably well as to general health. Os higher up, and if anything more firmly contracted, than yesterday morning; gave douche; ordered active walking, but not to the point of fatigue. After each operation the weakness spoken of occurred, and I was obliged to administer brandy-and-water. This weakness was never shown after use of interrupted current. 4 P. M.—Douche. 9½ P. M.—Douche. No positive change in condition of patient.

Saturday, 20*th*, 11 A. M.—Patient was awakened two or three times through the night with pain of an irritating character; said "she felt as if something within her was bearing down;" digital examination revealed no appreciable change, except that the os seemed lower in vagina—gave douche. Mrs. L. has had a natural evacuation each day from bowels; passed urine freely, and this upon examination shows only traces of albumen. 4 P. M.—Douche. 9 P. M.—Douche.

Sunday, 21*st*, 11 A. M.—On examination, os seemed softer and more dilatable; she stated that "during night and morning, at intervals of a half-hour, slight pains had occurred in lower part of abdomen always before her pains commence in the back." Some little nausea. Gave douche. 5 P. M.—Condition same; douche. 9½ P. M.—Patient complained of "pains lasting longer and being sharper." Found os lower down, but still a hard ring, not larger than silver half-dollar; introduced finger to second phalanx, and swept it round, separating the membranes. Gave douche.

Monday, 22*d*, 11 A. M.—Patient had suffered with small pains since last night. General condition good. Condition of os not appreciably changed. During douche two quite severe pains, caused, no doubt, by my directing current directly within the os. 5 P. M.—Douche. 11 P. M.—Pains more frequent, about every fifteen minutes. Os seemed softer. Douche.

Tuesday, 23*d*, 11 A. M.—The regularity with which pains occurred yesterday has all passed away. Only a slight contraction at long intervals, and felt in lower part of abdomen. General condition good. Gave douche. 5 P. M.—Douche. 9½ P. M.—Condition unchanged. Mrs. L. getting impatient. Made some effort at dilatation with fingers, then gave douche.

Wednesday, 24*th*, 10 A. M.—To my great chagrin and disappointment, found condition of patient the same. She had some disposition to diarrhœa during the night; seemed languid, and said she "had lost her appetite." 1 P. M.—Gave douche. 5 P. M.—Repeated douche.

Still no positive sign of labor, and as the time of the operation had already exceeded by twenty-four hours the time of delivery of the first case with the interrupted current, the patient being irritable and weaker, I determined to resort to more active means to hasten the delivery. Introduced the smallest size Barnes dilator. 9 P. M.—Returned, and found dilator in vagina, and introduced second size. 11 P. M.—Patient fretful and weak. Os more dilatable and softer, but no sign of positive labor; gave nervous anodyne, and ordered patient to retire for the night.

Thursday, 25*th*, 10 A. M.—Mrs. L. in better condition, but os had again contracted down and presented same condition as previous morning. Gave douche, and, as Dr. Otis had left town, requested Prof. Erskine Mason to meet me in consultation at 2 P. M. At that hour, after careful consideration, we thought, with the rigidity of os and the good condition of the patient, that it was better not to rupture membranes. The douche was given, and again at 10 P. M.

Friday, 26*th*.—Some greater dilatation of os. Bag of waters pressing lower down in vagina. Sent patient out for a walk after giving douche. At 6 P. M. found patient in same condition, and with consent of Dr. Mason ruptured the membranes during next pain. She at once lost a large quantity of amniotic fluid, so it was considered safer to keep her in bed; the presentation we both distinctly felt to be vertex.

Saturday, 27*th*, 12 M.—Dr. Mason met me at this hour by appointment. I was to have been sent for if her pains were more severe before that time. She informed us that she had passed a comfortable night, had been disturbed occasionally with small pains, but that toward morning the active motion of the child had ceased. Upon examination, a shoulder was found presenting. The os was softer and dilatable. Dr. Mason gave her chloroform, and I quickly performed version. Having secured one foot and leg, passed my hand up to bring down the other, and found the cord between the limbs; slipping this off, with very little difficulty, the body was brought down. Had some trouble with the head in the superior strait, but after a few moments it was delivered. The cord was wound around the neck twice, and, during the change of position of the fœtus through the night, had in some way got between the limbs. The child gasped some two or three times, and Dr. Mason, for an hour, tried to resuscitate it, but without avail. It weighed nearly six pounds. The placenta was delivered without trouble, and the uterus contracted down well. She had, however, considerable "after-pains," and we gave her one-fourth of a grain of sulphate morphia at once, and ordered her to have one-sixth every three hours if required. Next morning her pulse was 120°, skin normal, abdomen soft; had urinated twice; tongue moist, soft, and clean. 5 P. M.—Found her with great tympanitis—pulse 120. Cutting pain in left groin. For several days after this she was very ill; but, by use of opiates and other appropriate treatment, she finally recovered.

Time from first douche to delivery, nine days.

I have detailed the circumstances connected with these two cases so fully, because it was necessary to demonstrate the difference of action between the continuous and interrupted currents of hot water on the muscular fibres of the uterus. With regard to the third case, I will speak of it very casually, and detain you only a few minutes longer.

Mrs. L. was not seen for some months, when on Wednesday, April 12, 1876, she came to my office and informed me that she had not menstruated since September 24, 1875. This would have made her mean time of delivery about June 25, 1876. She, however, presented the appearance of a woman who had reached full term. Upon questioning her, she informed me that during the last month her abdomen had increased rapidly in size. The next day, Thursday, assisted by Prof. E. Mason, a careful examination was made of her condition. We decided that she had an amniotic dropsy. The fœtal pulsation was very feeble, the os high up and rigid. The lower limbs of mother much swollen and œdematous, and her urine containing a decided amount of albumen. In addition to all this her general condition was not so good as in the second labor. We determined under the circumstances, fearing the life of the child and also danger to the mother, to induce labor as soon as she reached the end of the seventh month. This brought her to the 24th of April. On the evening of that day, Monday, the first douche was given with Davidson's syringe, of two gallons of water, of a temperature of 110° Fahr. On Tuesday, 25th, three were given. Wednesday, 26th, three were given, and in the evening of that day she felt decided pains. Thursday, 27th, three were given. Friday, 28th, three were given—all borne well; patient attending to her household duties and going about as usual. Saturday, 3 P. M., last douche given; pains about every fifteen minutes; membranes pressed down in vagina; os quite dilatable. 10 P. M., Saturday, Mrs. L. progressing favorably. 5 A. M., Sunday, April 30th, sent for in haste; found patient in second stage of labor; membranes had ruptured during the last pain. At 9 A. M. she, without assistance, gave birth to a little girl, weighing only three pounds. The child was feeble, but did well. Mrs. L. had no trouble whatever, and made an excellent and speedy recovery.

Time from first douche to delivery, five days, eleven and a half hours.

RECAPITULATION.

First Child.—First douche, Wednesday, January 3, 1872, 11¼ A. M. Delivered Monday, January 8, 11¼ P. M. Time of labor from first douche with interrupted current by Davidson's syringe, five days and twelve hours.

Second Child.—First douche, Thursday, June 18, 1874, 1 P. M. Delivered Saturday, June 27, 12 P. M. Time of labor from first douche with continuous current of Kiwisch, assisted by Barnes's dilators, and final rupture of membrane, nine days and twenty-three hours.

Third Child.—First douche, Monday, April 24, 1876, 9½ P. M. Delivered Sunday, April 30th, 9 A. M. Time of labor from first douche with interrupted current as in first case, five days, eleven and a half hours.

It is very evident, from the above, that the continuous current cannot be relied upon as a sole agent to induce premature labor. The first shock from this constant stream certainly produces an impression, and causes some softening and dilatation; but after this period the effect is to paralyze more than excite to action, as is shown in Case II.

The *rationale* of the action of the interrupted current is, first, a sort of flagellation to the muscular tissue of the uterus. The Davidson syringe, with each pressure of the bulb, throws, with a force corresponding to the quickness of the compressing power, about an ounce and a quarter of the fluid against the os. Consequently, to discharge in this manner two gallons, will take about twenty minutes, and require the bulb to be emptied in the neighborhood of three hundred and sixty-eight times. Repeat this three times a day, and we can readily see the disposition to action which such a prolonged and constant stimulus must give to so sensitive an organ as the uterus. That the effect is stimulating to the entire organism is shown in Cases I. and III. Mrs. L. absolutely improved in health during both deliveries, never grew faint under the operation, and always arose from her couch in good spirits and without feeling any inconvenience.

To the contrary, after the continuous current in the second case, she was so faint at the termination of each douche as to require assistance and stimulation. It must be remembered also that the patient was in much better condition of health during the second labor than in either of the others. For my second line of reasoning I am entirely indebted to the articles written on the subject of hot-water injections by Dr. Thomas Addis Emmet. As far as I can understand, he has taught since 1860 that the secondary effect of hot water applied in this way was to cause contraction. In his "Philosophy of Uterine Disease," page 19, he says: "It is generally conceived that the application of heat by this method relaxes the vessels and increases the congestion. This it does at first, but, if prolonged, the capillaries are excited to increased action; as they contract, the tonic stimulus extends to the coats of the larger vessels, and their calibre becomes lessened."

On this ground I contend that the action of the interrupted douche of hot water by mechanical and constantly-recurring stimulation acts more rapidly than the continuous current, and first causes the smaller vessels about the os to contract, then the larger ones within the uterus. The result of this undoubtedly lessens the size of the womb itself, and, after the injection ceases, the returning flow of blood assists in exciting the organ to activity.

It will no doubt be considered by many that, in Case II., I should have sooner adopted some operative procedure to terminate the labor, but it must be remembered that each day I hoped to find natural contractions; and, besides, the patient was going about attending to her ordinary duties, and in no apparent danger.

In Case I. no account was kept of the fœtal pulsations; but having read the paper of Dr. F. C. Wilson, of the Louisville City Hospital, before the commencement of the second case, an accurate examination was made for this purpose several times in Cases II. and III., with the following result:

Second Case.—Average number of fœtal pulsations, 136. The child was a male.

Third Case.—Average number of fœtal pulsations, 160. The child was a female.

Dr. Wilson says: "From 134 to 138, the sex will be doubtful, with chances in favor of female. From 143 to 170 the sex will be almost certainly female." It seems to me, however, that these rules cannot be laid down with any absolute certainty, as so much must depend upon the condition of health of the mother, and the action of her circulation.

A point of interest in this case showing the hereditary transmission of a certain part of the organism of one or the other parent to the offspring is demonstrated in the fact that, some time after the death of the mother of Mrs. L., her father married a second time. The first fruit of this wedlock was a girl—now a Mrs. G., living in this city. She is four years younger than Mrs. L.; it has been my duty to attend her twice in labor, and she has a perfectly normal pelvis in shape and dimensions.

What are the advantages of this method compared with those now in vogue?

From the time of Dr. Macaulay, of England, who about the year 1756 or 1757 first induced premature labor, until that of Prof. Kiwisch, in 1846, every delivery of this kind was made with more or less instrumental interference. The latter undoubtedly appreciated the fact that the effort in this direction which most simulated the action of Nature would promise the greatest safety to mother and child. Hence his continuous current of hot water against the os.

The objections to perforating the membranes are manifold. The liquor amnii may escape so rapidly as to bring the walls of the uterus in direct contact with the child, thus endangering its existence.

As in Case II. related, the position of the child is liable to change. This has been thoroughly demonstrated at the "Maternité in Paris by Dubois."

Again, it may make the delivery tedious, by causing what is termed dry labor.

The dilatation of the os uteri by compressed sponge is the least objectionable of the forcible means for the induction of labor, but it is not always an easy matter to introduce prepared sponge of this kind without causing a good deal of irritation about the parts. In addition to this, statistics show that it has failed in a large number of cases.[1]

Schoeller's vaginal tampon is, I believe, but little used today, on account of the great annoyance and suffering it caused the patients.

Barnes's dilators are invaluable where great haste is required, in cases of hæmorrhage or puerperal eclampsia.

The mechanical procedure of Mampe, and others, of introducing gum-elastic bougies; Cohen's uterine injection, and forcing other foreign substances, between the walls of the uterus and the membranes, to stimulate contractions by separating the latter from the former, must, one would suppose, give way entirely to the operation now performed by Prof. T. Gaillard Thomas. In an interview with that gentleman a few days ago, he gave me a minute account of his procedure. He introduces the nozzle of a Davidson's syringe to the os internum; this is held stationary by placing a finger on either side of the os externum; by this means, also, the rapid exit from the uterus of a portion of the fluid is temporarily prevented. The hot water is then gently thrown against the membranes, and between them and the body of the womb, thus separating the former and bringing on rapid contractions. He assured me that within twenty minutes the os would dilate to the size of a silver quarter, and that more than twenty-four hours were hardly ever required to complete the delivery, and frequently this object was accomplished in a much less time. One case where the first injection was given at seven o'clock, P. M., the babe was born by midnight. He also informed me that, although at his advice a number of physicians had tried this method, he had as yet to hear of the first unfortunate result. It will be noticed that this operation of Prof. Thomas differs in two particulars from that of M. Blot, Dr. Harting, and others, as mentioned in the early part of this paper, in that he uses the interrupted current of Davidson's syringe, and by placing a finger on either side of the os externum the partial return of the fluid is prevented. Although the doctor has been so successful with these intra-uterine injections, there are gentlemen on record who have not been so fortunate in injecting the pregnant womb. Cazeaux, in speaking of this subject, p. 1011, says: "I also reported several cases of sudden death while the douche was being administered under the charge of such men as MM. Depaul, Salmon (of Chartres), and Simpson, whose skill is beyond questioning. Prof. Depaul, in relating his own case to the Surgical Society, thought he could account for the event by the introduction of a few bubbles of air into the uterine sinuses, and I think his explanation a good one, for in every instance the symptoms observed were those produced by the entrance of air into the veins." Prof. Leischman,[1] of Glasgow, says, "Simple and safe as this method may appear, later experience has shown that it is by no means free from risk, and fatal cases have been reported, in which death had occurred."

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[1] Bedford, "Principles and Practice of Obstetrics," p. 675.

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[1] Leischman's "System of Midwifery," p. 536.

We all know that, for a week or two prior to delivery at natural term, the uterus, os, and soft parts, are preparing for the advent of the fœtus. The organ sinks lower in the cavity, the os becomes softer and dilates to some extent, and the soft parts secrete an abundance of mucus to lubricate the passage, and assist the final expulsive efforts of the womb. It will be remembered that in Cases I. and III. the delivery required five days and a half. The latter labor was accomplished in one half hour less time than the former. Consequently, from the character of the stimulant given to the organ to bring on gradual contractions, this preparatory stage, as in normal labor, was accomplished. This operation promises undoubted safety to both mother and child. There can be no comparative danger from inflammation of the soft parts, or the organ itself, in case the blood or tissues of the mother are deteriorated by any constitutional poison, because they are not in any way injured. The operation requires patience on the part of the medical attendant; but our profession is noted for possessing that virtue. And, lastly, the interrupted-current douche does not oblige the practitioner to penetrate beyond the external os. If we can succeed without this, we are fortunate, for the pregnant womb is a sacred tabernacle, containing life, the most precious of all the gifts of God, and, as such, deserves our greatest respect and most earnest consideration.

ART. II.—*Nitrite of Amyl as an Antidote to Chloroform.*[1]

By F. A. BURRALL, A. M., M. D., Fellow of the New York Academy of Medicine.

THE prompt action of chloroform and the calm sleep which it induces, its comparatively pleasant taste, and the usual absence of subsequent vomiting, would alone be sufficient to secure its general adoption as an anæsthetic, were it not that so many physicians regard it as uncertain and dangerous.

[1] Read before the Academy, September 21, 1876.

With some, this conviction is so decided that they advocate its entire disuse as the only radical method of avoiding the attendant risks. Others restrict its employment to certain classes of patients in which they consider dangerous results as unlikely to occur.

The medical journals still continue to report a noticeable number of fatal cases, and these are occasionally collated with comments by medical writers. If the number of deaths be diminishing, a point rather difficult to decide, it must be remembered that, as has been previously observed, very many physicians have discarded it as an anæsthetic. According to one statement[1] a death occurs in every 2,723 administrations, while a more recent writer gives the proportion as one death in 2,500 patients.[2] Clinical observation seems to teach that the fatal cases are usually those of syncope or cardiac paralysis;[3] sometimes respiration ceases primarily;[4] and occasionally the pulse and respiration come to an almost simultaneous stop.[5]

The danger of grave consequences is less under certain circumstances, and in certain classes of patients, than in others. The records of the lying-in chamber show few, if any, well-authenticated fatal cases, although individual practitioners will narrate instances in their own practice where deadly symptoms seemed so imminent as to deter them from a future use of this anæsthetic. Yet, when it is considered how frequently chloroform is used in obstetric practice, and administered by unskilled friends or nurses, without bad consequences, it must be regarded as an agent which involves here less than its usual risks.

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[1] *Chicago Medical Examiner*, 1870.

[2] London *Lancet*, August 7, 1875. A communication from Dr. Brudenell Carter.

[3] "One surgeon in London asserts that he has seen sixteen deaths, and another six. The deadly cases are those of syncope or paralysis of the heart, and this, whenever it occurs, appears to place the victim beyond the reach of human aid."—(London *Lancet*, August 7, 1875. A communication from Dr. Brudenell Carter.)

[4] As to one of the modes of death, *see* a paper by Dr. A. H. Smith, of New York, in the "Transactions of the New York State Medical Society" for 1871, p. 226.

[5] *See Pacific Medical and Surgical Journal*, July, 1869, p. 92. *American Journal of Medical Sciences*, 1867. *Medical News and Library*, December, 1869. "Transactions of the New Hampshire State Medical Society," 1869.

Perhaps the great struggles of the system during labor tend to sustain *reflex action*, and, by averting the destruction of one of those functions which chloroform destroys, diminish its risks. Some hold that the great muscular activity which occurs at that time maintains the circulation, and prevents the cerebral anæmia[1] which chloroform tends to induce.

There is also a favorable testimony as to its employment in military practice. Says Surgeon George A. Otis, in Circular No. 6, issued from the Surgeon-General's Office in 1865: "The returns indicate that chloroform was administered to not less than eighty thousand cases. In *seven* instances fatal results have been ascribed with apparent fairness to its use." Again, there is good authority for preferring it to ether in the case of children, although this must be regarded as doubtful, while it is very certain that it should not be employed for operative procedures of a trifling character, since the mortality under such circumstances has been relatively large.

Those whose unfavorable opinion of chloroform is derived mainly from impressions, rather than a study of facts, will find their impressions strengthened by the conclusions of Prof. Schiff, which are based on five thousand experiments performed by himself. This eminent physiologist has expressed himself adversely to chloroform, in a communication recently made to the Societâ Medico-fisica of Florence. He believes that both anæsthetics produce paralysis of conscious sensation, voluntary muscular movement, respiration, circulation, and finally of the heart and vaso-motor nerves. With ether, respiratory precedes vascular paralysis, and the vascular pressure remains sufficiently high to afford an opportunity of restoring animation if artificial respiration is resorted to immediately after natural respiration has ceased. With chloroform, however, vascular paralysis frequently precedes respiratory, and an amount of chloroform insufficient to cause paralysis of respiration will often produce vascular paralysis, accompanied by such a diminution of blood-pressure as to render artificial respiration useless, since interchange between the gases of the air and blood does not take place. Here, artificial respiration does not recall life, and respiration ceases when artificial aid is removed.

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[1] "Half-Yearly Compendium of Medical Sciences," July, 1876, p. 176.

An opinion like this from an eminent observer, and based on experiment, cannot but carry much weight; yet physicians rely on their individual experience. This experience differs something as follows: One has used chloroform in hundreds of cases without any bad result, and considers it safe and reliable. Another had almost adopted the same conclusion, after long experience, when alarming symptoms or a fatal issue occurred in his own practice, and shook his confidence. Still another has been alarmed by apparently dangerous phenomena resulting from ether, and has returned to chloroform, with the idea that its dangers, as compared with ether, have been exaggerated. There is this well-known peculiarity with regard to chloroform, that a patient may take it for many times with perfect impunity, and then its administration results fatally, amid apparently the same conditions under which it was previously given.

It must, nevertheless, be admitted that, notwithstanding the objections urged against chloroform as an anæsthetic, it occupies by no means a weak, even if a debatable, ground.[1] A recent writer claims that, "by proper care, chloroform is a sufficiently manageable and safe agent for use," and that "it is not the chloroform which is to blame, but the mode of administration."

In Scotland it is employed almost exclusively, and the number of physicians is everywhere large who do not hesitate to give chloroform as an anæsthetic. The time has not yet come when chloroform will be laid aside, and its use will continue so long as there is the existing diversity of opinion regarding its merits. Hence it must be now, as it has been, the earnest wish of physicians to diminish the attendant dangers. The present prominent remedial measures to nullify chloroform-poisoning are: the production of artificial, to take the place of natural respiration; the lowering of the head, to supply the brain with blood and avert syncope; drawing forward the inferior maxilla, and thus opening the larynx by traction on those muscles connecting the lower jaw with the larynx and os hyoides;[1] brandy administered hypodermically, and faradism to arouse the nervous system. These agencies have doubtless rescued many from impending death.

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[1] *British Medical Journal*, January 1, 1876.

The medicinal agent which seems to promise most as an antidote is the nitrite of amyl, since physiological experiments have developed an antagonism between the effects of nitrite of amyl and chloroform. While chloroform impairs reflex excitability and produces contraction of the cerebral vessels, amyl nitrite restores this excitability and causes their dilatation. Into the enlarged vessels the blood freely enters, and a rapid circulation follows.

Says Mr. C. Bader, who has had an interesting experience with this remedy: "In three or four seconds after taking three drops of nitrite of amyl on sugar, the blood-vessels of the retina (chiefly the veins) become enormously dilated and gorged with blood, leaving no doubt as to simultaneously existing cerebral hyperæmia, with accelerated circulation of blood."[2] As to the essential mechanism of this effect, it must be regarded as not yet fully understood, but Dr. Robert Pick considers that the following conclusions are established by former and recent experience:[3]

1. Amyl nitrite produces a direct paralysis of the vascular wall.

2. The effect of the drug must be peripheral, but whether the smooth muscles themselves, or the terminal ends of nerves in these, or, finally, certain hypothetical peripheral ganglionic cells, are the points of attack, is unknown, and will not be so easily decided.

It is not necessary to give a detailed account, in this paper, of the preparation of nitrite of amyl, since it has been fully described by previous writers, and this article deals with but one of its many therapeutic effects. It is a volatile, greenish-yellow liquid, with a strong odor of bananas, made by the action of nitric or nitrous acid on amylic alcohol, and its chemical formulais $C_5H_{11}NO_2$ (or $C_{10}H_{11}ONO_3$). It should not be confounded with the nitrate of amyl, which has a higher specific gravity (0.919), a higher boiling-point (147° to 148°), possesses a disagreeable, *cimicicular* smell, and is colorless.[1] The nitrite is usually administered by inhalation, but it may be given hypodermically, or by the mouth. The usual dose is about five drops, inhaled from a cloth, but, with regard to this, we may refer to the following testimony of the well-known S. Weir Mitchell, who says, "I find physicians very timid as to this remedy, but, after much and long use of it, I have altogether lost the dread of it with which I began."[2]

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[1] Placing the patient on the left side has also been found serviceable.

[2] London *Lancet*, May 8, 1875.

[3] *Deutsches Archiv für klinische Medicin*, February 25, 1876, Dr. Robert Pick. *See* also *British Medical Journal*, February 26, 1870.

A convenient and portable vehicle for carrying this volatile medicine is the closed-glass capsule made at the suggestion of Dr. T. A. McBride, of this city, by Mr. F. Baagor, of the New York Dispensary. These capsules contain about five drops of the remedy, and the method of using them is to break them in a cloth.

Here let me add that, while this paper may, perhaps, have some scientific value, it has a practical interest chiefly for those who consider chloroform as an available anæsthetic for general use.

In a communication to the *New York Medical Gazette*, of June 11, 1870, I recommended *nitrite of amyl* in the following terms: "It would seem worthy of a trial in the threatened syncope from chloroform, since the inhalation of but a few drops is followed by marked acceleration of the heart and flushing of the face. The writer poured about eight drops upon a towel, and, as an experiment, snuffed it two or three times, when immediately the radial pulse became accelerated, the heart throbbed with much force, and the pulsation of the cranial vessels became almost painful. At the same time there was a decided tingling of the ears. The symptoms lasted but a few moments, the tingling remaining after the circulation had become quiet." This is, I believe, the first suggestion for the use of the nitrite of amyl as an antidote to the effects of chloroform, but I am not aware that it was thereupon employed with a view to avert any of the deaths from chloroform which occurred about that period.

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[1] *Chemist's and Druggist's Circular*, from *Pharm. Zeitung*.

[2] "Transactions of the College of Physicians of Philadelphia," 1875.

In the "Transactions of the Fourth Annual Session of the Medical Society of Virginia, 1873," is a paper by Dr. William C. Dabney of Charlotteville, Virginia, on "Nitrite of Amyl as an Antidote to Chloroform." Dr. Dabney was not aware that any one had previously written upon the subject. He argued from Richardson, who believed that the "nitrite of amyl was, as an excitant of vascular action, the most powerful agent as yet physiologically discovered," as well as from a case of fainting, in which amyl nitrite was used with good effect, at the suggestion of Dr. J. L. Cabell, that it might prove of great value in some cases of threatened death from chloroform. To test its value, he made the following experiments:

Experiment I.—Adult cat. The administration of chloroform was begun at 2.07 o'clock. At 2.15 the cat seemed thoroughly narcotized; the pulse was regular and strong, and breathing normal. At 2.19 the heart's beat was very weak and irregular, and the breathing very slow and labored. At 2.21 the heart's impulse was almost imperceptible; respirations gasping and at long intervals. Dropped five drops of amyl on a chip and held it to her nose; 2.23, the heart was beating stronger and more regularly; 2.25, heart beating with great force, and the breathing was hurried. She tried to move at this stage, but seemed to have lost all power over the voluntary muscles, except those which move the head from side to side, which responded slightly. At 2.30 she could move her fore-legs and body, but dragged her hind-legs. At 2.40 she had entirely recovered.

In this case the chloroform was given *gradually*, and mixed with a large proportion of atmospheric air.

Experiment II.—Adult dog (terrier). The administration of chloroform was begun at 7.23 p. m. At 7.30 the dog was howling and scuffling, and passed his fæces. At 7.38 the narcosis was complete; the pulse and breathing were regular. At 7.42 the pulse was very weak. At 7.45 pulse almost imperceptible, breathing slow and labored. At 7.46 *injected* five minims of amyl hypodermically; 7.48, heart beating violently, breathing quick, animal still apparently unconscious; 7.53, could move his head from side to side, but could move no other part of his body. He was then put out-of-doors (it was winter). At 8 he seemed to have entirely recovered. The chloroform-vapor was mixed with air and given freely.

Experiment III.—Adult dog (terrier). Chloroform was given till his heart-beat was almost imperceptible, and respiration at long intervals. Injected five minims of amyl; in two minutes his heart was beating with great force, and his breathing was very quick. The chloroform was mixed with air and given slowly.

Experiment IV.—Half-grown puppy. The administration of chloroform was begun at 11.15, *and all air was excluded.* 11.18, dog was howling and trying to escape; 11.20, poured on more chloroform. At 11.23 pulse weak and breathing very labored. At 11.25 the breathing suddenly ceased; heart beating very faintly. Stopped the chloroform and injected five minims of nitrite of amyl, and began artificial respiration, but could not arouse the animal in any way, or get the heart to act. At 11.30 I took out the heart, the right cavities of which were filled with venous blood, and dropped on it four or five minims of amyl. This produced some contraction.

In the first three experiments the chloroform-vapor was mixed with air and given slowly. In the fourth all air was excluded, and the animal was overwhelmed with a large quantity of vapor at once.

In the first three experiments, also, the heart's action was much more affected than the respiration. In the fourth the respiration had ceased entirely before the amyl was injected.

In the first three experiments the amyl produced a decided increase in the frequency and force of the heart-beats; in the fourth no effect was produced.

These experiments of Dr. Dabney seem to have attracted but little attention, nor am I aware that any effort was consequently made to diminish the mortality from chloroform by a resort to this agent.

The next important notice of this subject is from the pen of Dr. M. Schüler, in an article contained in the *Berliner klinische Wochenschrift* of June, 1874, on the action produced by certain medicinal agents on the cerebral vessels.[1] His experiments were upon rabbits, which he prepared by carefully removing a small portion of the skull, and leaving the dura mater intact. He thus writes:

"Chloroform inhaled in the same manner as the nitrite of amyl produces, after from six to twelve inspirations, a commencing diminution of the arteries of the pia mater, and then of the veins. This is accompanied by a corresponding decrease in the pulsations. Soon follows an increasing relaxation of arteries and veins, and, at last, marked venous stasis. This might rather be termed a decided 'cyanosis.' As a result of the venous condition of the blood, the arteries become speedily of a darker hue. After a time the pulse rises somewhat, but at last beats still more slowly as the inhalations continue. The condition of the vessels referred to undergoes no noticeable change. Not until the free admission of atmospheric air is there any variation in the calibre of the vessels or their venous hue. . . . The nitrite of amyl promptly removes the effects of chloroform on the vessels of the pia mater. The arteries dilate and speedily resume their bright color in consequence of a freer circulation. The veins also become of a clearer hue, and the respiration, which has been previously embarrassed, grows easier and more frequent." He also states that "the reflex excitability which has been destroyed by the powerful chloroform narcosis is soon fully reëstablished under the influence of the nitrite of amyl.

It will be noticed that the experiments previously cited have been practised only upon the lower animals, but in the London *Lancet* of May 8, 1875, is a narration by Mr. C. Bader, of Guy's Hospital, of several cases in which amyl nitrite was given to patients in order to avert the dangerous effects of chloroform. In the first case, chloroform was administered in combination with alcohol and ether. He cites the following:

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[1] "Ueber die Einwirkung einiger Arzneimittel auf die Gehirngefässe. Von Dr. Maximilian Schüler, in Bad Laubbach bei Coblenz am Rhein, früher Assistent am physiologischen Institut zu Jena. *Berliner klin. Wochenschrift*, Nos. 25 and 26, 1874.

"CASE I.—Given a mixture of alcohol, ether, and chloroform. Young man hydrocephalic, inherited syphilis; iridectomized on both eyes; suddenly became pale, deeply insensible, with pulse and respiration very defective. Lint, with a few (three) drops of the nitrite of amyl, was placed over nose and mouth. In two or three seconds a deep inspiration, followed by others, flushed face, quick pulse, and return of sensibility, were observed.

"CASE II.—Given chloroform. A boy, pale, fat, blue lips and cheeks, became suddenly very faint (blue lips, blood turning black, breathing very imperfect). The same quick result, with vomiting, followed the inhalation of the nitrite of amyl (three drops).

"CASE III.—Given chloroform. A middle-aged woman; suddenly became blue in the face, and stertorous (tongue falling back). Lint, with ten drops of the nitrite of amyl, was placed over mouth and nose. In a few seconds the blueness and stertorous breathing gave way to good color, regular breathing, and sickness and vomiting, though no food had been given for several hours."

There is also an account of some experiments which bear upon the antagonism between nitrite of amyl and chloroform in a paper read before the Southern Michigan Medical Association, July 13, 1875, by W. N. Smart, M. D., of Hudson, Michigan.[1] Although these experiments were made upon the inferior animals subsequently to the time when it had apparently been shown by Mr. Bader that the nitrite of amyl would neutralize at least some of the dangers to which man is subject when under the influence of chloroform, they present features of special interest, and are worthy of study. They are here subjoined:

"EXPERIMENT I.—Gave a medium-sized cat chloroform by inhalation, *until respiration ceased;*[2] time required, three and a half minutes. After waiting *thirty seconds*, I began artificial respiration, at the same time holding a cloth, on which ten drops of nitrite of amyl had been placed, close to her nostrils. In twenty seconds the heart, which before had been acting very slowly and feebly, began to beat very rapidly and more forcibly. At the end of forty seconds, she gave two or three spasmodic inspirations, after which respiration went on regularly, but quite rapidly. *The effect on the pupils was very marked.* When respiration ceased, they were fully dilated. After taking three or four inspirations of amyl, they contracted rapidly,[1] till a state of extreme contraction was reached. After allowing her to come out from under the influence of the chloroform enough, so that she attempted to get up, I caused her to inhale amyl for one minute, when I again gave her chloroform, having the strength of the vapor, as near as possible, the same as at the first inhalation. This time seven minutes were required before respiration was arrested by the chloroform, anæsthesia being considerably delayed.

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[1] *Detroit Review of Medicine and Pharmacy*, November, 1875.

[2] Not italicized in the original article.

"After waiting *one minute after respiration ceased*, used artificial respiration, and gave amyl as before, with about the same result.

"Experiment II.—3.35 p. m., injected fifty minims of chloroform into the peritoneal cavity of a small-sized cat, having previously ascertained that this quantity, when so used, was sufficient to cause death in about two hours, in cats of medium size. At 3.53 p. m., anæsthesia complete; pinching or pricking the feet produces no effect; *reflex action is so far abolished* that touching the conjunctiva produces no movement of the eyelid. At 3.55, commenced giving nitrite of amyl by inhalation; the first effect that was noticeable was to cause dilatation of the blood-vessels of the ear, which before had been scarcely visible. At 3.58, three minutes after commencing the use of the amyl, *reflex action is easily excited;* she closes the eye instantly, when the conjunctiva is touched; anæsthesia is now complete; the foot is jerked away when the toes are pinched; stopped giving the amyl. At 4.05 p. m., touching the conjunctiva produces no effect. Now held a vial, containing amyl, close to the nostrils for one minute, which had the effect of again restoring reflex action, and some degree of sensibility. At

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[1] This would imply coincidence of contraction of the pupil with dilatation of cerebral vessels.

4.15, can yet excite some reflex movements; anæsthesia nearly complete; heart acting rather slowly and feebly; again placed the vial of amyl near the nostrils, when the contractions of the heart became considerably more forcible, but were not much increased in number. At 4.30, anæsthesia very profound; cannot excite movements of any kind. At 4.35, respiration very slow and superficial; gave amyl for two or three minutes, when respiration became deep and regular, and anæsthesia imperfect; on pinching the toe, the foot is drawn away. At five o'clock, anæsthesia again complete, and respiration getting very feeble; gave a few drops of amyl; after breathing it for a few minutes, she showed signs of returning consciousness, and made an effort to get her nose away from the vial of amyl. On touching the conjunctiva, the eyelid is quickly closed; on pinching the toes, the foot is jerked away, and she evidently tries to get away. *Anæsthesia did not again return*, and at six o'clock she seemed perfectly recovered, with the exception of great muscular weakness.

Experiment III.—Gave a half-grown kitten a *mixed vapor* of chloroform and nitrite of amyl, containing about forty-nine parts of the former to one of the latter. I gave this by placing chloroform and amyl, in the above proportion, in a thick cloth sack, which was drawn over the head and held close around the neck, the chloroform and amyl being renewed several times, in order to insure a strong vapor. The effect produced by breathing this vapor for fifteen minutes is, a rapid though deep inspiration; a rapid and rather feeble action of the heart; an inability to coördinate movements; a *very slight degree of anæsthesia*, and a species of intoxication resembling that produced by alcohol.

"I now removed the amyl and gave the chloroform alone, in the same manner that I had been giving the mixture. The result was profound anæsthesia and complete muscular relaxation within three minutes. Then removed the chloroform and held a vial of amyl to the nostrils. In three minutes the cat was so far restored as to attempt to get up, and seemed perfectly conscious, though the power of coördination did not return for an hour."

The different experiments quoted in this paper have been given at length, because the subject is comparatively new and the experiments differ considerably in their details. I have not had an opportunity of testing the action of this agent upon the human subject when in impending danger from chloroform, but should do so did the occasion present itself. My own recent experiments upon the inferior animals are few, yet I think they show an antagonism between nitrite of amyl and chloroform. They are as follows:

Assisted by my friends Drs. J. H. Anderson and H. D. Nicoll, a medium-sized and rather feeble cat was brought rapidly under chloroform, which was freely given, ℥ ij having been used. When respiration ceased, ten drops of nitrite of amyl were injected hypodermically, a cloth wet with a few drops of the same was held to the nose, and artificial respiration commenced: pupils fully dilated. No reaction whatever ensued.

Case II.—Present, Dr. J. H. Anderson. The subject was a feeble kitten, about six weeks old.

10.30 p. m., before giving chloroform, heart very active, as if from fear. Gave chloroform on a napkin, gradually and mixed with air, as to the human subject. 10.40, respiration abdominal and jerking, heart's action feeble and irregular. Reflex action, as shown by touching conjunctiva, greatly reduced. A few drops of amyl were put upon a napkin and held to the nose. 10.42, winks. 10.45, respiration regular and full, heart beating freely and regularly, muscular relaxation still complete. Reflex action restored. Putting bottle of amyl to nose, averts her head. Disposition to turn over. Resists raising the limbs. Repeated chloroform. 10.50, kitten active and resisting. 10.53, pulse irregular. Placed amyl to nostrils, no reaction, respiration wanting, kitten apparently dead. Injected ten drops of nitrite of amyl in two doses hypodermically, drew forward the tongue with a tenaculum; held a napkin, on which were a few drops of amyl, to the opened mouth, and made artificial respiration by compressing and relaxing the chest with the hand. A slight gasp soon followed. 11 p. m., heart faint but improved, reflex action restored, winks if the eye is blown upon, respiration still mainly abdominal. Muscular relaxation almost complete.

11.5, moves freely, thoracic respiration restored. 11.20, mews vigorously, walks about irregularly. 11.45, muscular coördination not yet restored.

I did not consider the kitten as requiring further notice, and left her in my office for the night. In the morning I found her rigid and dead.

Case III.—Present, Dr. H. D. Nicoll. The subject was a small cat. Heart beating rapidly.

2.20 p. m., gave chloroform on a sponge in a small cone, with free admission of air. 2.27, full anæsthesia, respiration gasping and abdominal, about six to the minute, heart fluttering, pupils unchanged. Discontinued chloroform and held a napkin to the nose, on which were a few drops of nitrite of amyl. 2.29, artificial respiration not employed, heart stronger, regular, and very frequent; cat sits up. 2.30, walks, but with failure of muscular coördination of posterior extremities. Quantity of chloroform given about ʒij. 2.35, cat almost restored; resumed chloroform. 2.41, anæsthesia complete; pupils largely dilated; reflex action abolished. 2.43, respiration suspended for half a minute, heart very feeble and fluttering. Injected five drops of nitrite of amyl hypodermically. 2.44, respiration resumed, heart stronger and more regular. 2.45, respiration regular, pupils react to light. 2.55, sits up, but unable to control posterior extremities, seemed occasionally to require rousing, and fresh air and artificial respiration were made available. 3.5 p. m., nearly well, but coördination of posterior extremities not yet restored. 4 p. m., about as well as before experiment.

The first experiment merely proves that chloroform must not be pressed too far before the employment of restoratives. In the second, an antagonism between chloroform and nitrite of amyl is shown during the first part of the experiment, and afterward an animal apparently dead was so far resuscitated as to be considered out of danger, and seemed to be moving progressively toward recovery. The third experiment corroborates the testimony of previous observers.

Dr. Rufus R. Hinton communicates the following case to the Philadelphia *Medical Times* of July 31, 1875: "Captain H. called at my office to be treated for a whitlow involving the first and second joints of the middle finger. Dreading the operation of laying open the finger with a knife, the captain suggested the use of chloroform, which he had taken for two or three minor operations while in the army, without any bad result. I sent for ℥j of Squibb's chloroform, and, pouring two or three drachms upon his handkerchief, directed him to inhale it, at the same time directing him to elevate his hand, intending, as soon as the hand dropped, to lay open the finger. As the hand dropped I noticed that the patient was of a deathly pallor and had ceased breathing; opening his mouth and drawing his tongue forward with a tenaculum, I immediately applied five drops of the nitrite of amyl to the nose and mouth. To my delight, flushing of the face with violent beating of the carotid ensued, and the captain opened his eyes, wanted to know where he was, and consented to have his finger incised without the further use of chloroform.

We have thus followed the idea of an antagonism between the effects of nitrite of amyl and chloroform, from the time when it was first suggested, to the demonstration of such properties by experiments upon the lower animals, and then upon man. The question arises as to what degree the dangers of chloroform are diminished by the use of the nitrite of amyl. An inference from the experiments cited would teach that, as in Dr. Dabney's fourth experiment, and my first, very "thin partitions" divide the "bounds" between chloroform anæsthesia and death, and that chloroform must still be used with great precaution. Yet I think it cannot be reasonably doubted that we have in the nitrite of amyl a decided aid against the lethal effects of chloroform. In the light of our present knowledge, it seems to me that humanity and science alike require that, when chloroform is used as an anæsthetic, the nitrite of amyl should be at hand as one of the remedies whose efficiency is to be tested in case of impending danger.

Art. III.—*Florida as a Health-Resort.*[1] By Frederic D. Lente, M. D., Representative from Florida on the Executive Committee of the Centennial Medical Commission.

For years the question, *Where shall I spend the winter?* of a phthisical or phthisically-inclined patient, has been an embarrassing one to the physician. Winter resorts, some of them entirely dissimilar in the characteristics of their climate, have risen or fallen in the estimation of the public, and, to some extent, among medical men, according to the prevalence or decline of a theory, or apparently even a fashion; and we are still, to a great extent, at sea as to what is the most favorable location for an invalid in winter or spring, or even whether any change is desirable. The cold and dry regions, e. g., Minnesota; the elevated regions, with their rarefied air, e. g., the Engadine in Europe, the mountains of Peru in South America, Laramie and Colorado in this country, have had their pilgrims, and neither theory nor fashion seems to sustain their reputation. The time-honored resorts of Italy, which, for so many years, absorbed almost the entire invalid travel, have lately fallen greatly in the estimation of intelligent people, who could not fail, after the charm of novelty and the haze of romance had been dispelled, to see on how unstable a foundation, in a climatic and hygienic point of view, her reputation had been based. Even Mentone, to which the name and efforts of Bennett, for a long series of years, gave a fictitious prominence as a health-resort, and rendered it, for the English invalids at least, a medical Mecca, has failed to respond satisfactorily to the test of time and experience. One who wishes to get a thorough *exposé* of the peculiarities of Italian climate, from a responsible source, should consult the entertaining book of Dr. James Johnson on "Change of Air." The climate of Bermuda has lately been recalled into some prominence through the efforts of a transportation company; but those who have remained there for a few weeks have been more injured than benefited. Those who merely made the voyage, and remained but a week or two, have seemed to be somewhat improved in health.

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[1] This paper was read, by abstract, before the American Public Health Association, at its annual meeting in Boston, October 6, 1876.

But little has been known among our people concerning the climate of Florida. Comparatively few had visited the State prior to the war. Many causes conspired to this: the long Seminole War; the unsettled state of affairs for many years after; the impossibility of securing any decent accommodation for invalids; then the civil war checked travel and immigration, and rendered the State still a *terra incognita.* Now, everything has changed. To one who has not paid a visit there, especially to the St. John's River region, for three or four years, it is as if the magician's wand had been waved over it. Not only those seeking health, but settlers, in the shape of farmers, of men of means, even of wealth, of education, and refinement, have been pouring in along the river counties; as many as twelve thousand have been estimated as the influx into Orange County alone in twelve months. Forests have been leveled. Orange-groves have taken their places. Schools and churches have sprung up, and refined and agreeable society can be found over a large extent of country, where but a few short years ago a howling wilderness existed. The tide of invalid travel having been diverted from its usual channels to this favored spot, the attention of the medical profession has naturally been attracted there also, and a growing desire has been manifested to secure reliable and definite information in place of the various conflicting reports which are constantly flooding the journals and magazines of the country. The writer had collected a large amount of valuable information and statistics, and had partially prepared for publication, at the suggestion of friends and physicians, a somewhat elaborate account of the climate, remarkable objects of interest, and resources of Florida, especially as a health-resort, when he found that he was overtaxing his available time and health, and now offers, as a poor substitute, such remarks and suggestions as he thinks may prove interesting or serviceable to the profession, and for which he may be able to find room in the somewhat restricted compass of a medical journal.

The discussion of the broad question of climate, in its various aspects and bearings, has always been a perplexing one.

It is especially so when we, as physicians, come to consider it in its relations to any particular individual, or even any particular disease. To analyze the mass of information with which we are confronted, to scrutinize the various conflicting statements of equally reliable observers, and to deduce anything like a definite and satisfactory conclusion, with regard to any particular locality or country, is a matter of no small difficulty. To this sort of investigation the writer has addressed himself for the past two years, in the case of Florida; and indeed, for the most part, only to a small portion of the peninsula, that which is most accessible to invalids. For, until proper facilities for easy travel and proper accommodation are provided for those larger portions lying along the Indian River, and along the Gulf coast, south of Tampa, which are supposed by many to present attractions superior to the more northern portions, their relative merits may profitably be left out of the question. The great bulk of tourists and invalids have heretofore distributed themselves along the St. John's River and at St. Augustine. A few go into the pine-regions of the interior to get away from the river. But, go where one will in Florida, it is difficult, owing to the peculiar conformation of the country, to escape the influence of considerable bodies of water. With reference to Florida, "almost without a metaphor," says "Chambers's Encyclopædia," "it may be described as amphibious." This, however, so far from being a disadvantage, constitutes, to a certain extent, its charm, and will, in the future, constitute a great source of its wealth—these bodies of water being, for the most part, clear streams and crystal lakes. A study of most of the works on Florida, from that of Le Moyne, who visited the territory as artist to the French expedition under Laudonnière in 1564, and the Bartrams, who visited it as naturalists in 1772, to the latest publications, including periodicals, pamphlets, and newspapers; access to all the records bearing upon the subject in the possession of the War Department, the library of the Surgeon-General, and other depositories in Washington; a careful collation of the various meteorological and other tables included in these records; personal interviews with distinguished medical officers of the army, who have served in all parts of Florida, and with many of the scientific and medical residents of the State, with some of her representatives in Congress; and, lastly, the opportunity for consulting a considerable number of the thousands of intelligent visitors and invalids, who passed through, or located for the season at the writer's winter residence, have afforded him unusual facilities for unraveling the intricacies of the subject so graphically described by Scoresby Jackson. The last source of information, as regards the relative merits of various climates, he considers of more value than all the others, more so than even an extended personal observation. For invalids are by far the best judges of climate; they are living barometers and hygrometers. Here, you have the opportunity to question and cross-question the reporters, and not only thus to arrive at the truth, but, what the books seldom give, the whole truth. All of these individuals were intelligent and educated people, most of them invalids who had traveled the world over in search of health, and tested its renowned sanitary resorts, some of them winter after winter. Few of them had any particular prejudice for or against any special locality, save from its actual effect, but were, from self-interest, in search of the best.

The evidence of those who have tested the climate of Florida by sufficient personal observation, or by a careful examination of the data furnished by others, has been of the most favorable character. The opinion of those who have devoted a few weeks to roaming from one locality to another, or who have based their opinion on conversation with a few visitors, may be profitably neglected. From the very earliest discovery of the continent, the remarkable salubrity of the climate, and the extraordinary transparency and purity of the springs, gave origin to the tradition that a "fountain of youth" existed somewhere within the borders of the territory, and led to the expedition of the romantic and chivalric De Leon in search of it. The first impression of a visitor, who has been led to form a picture of Florida from the enthusiastic descriptions of writers, aided, perhaps, by a vivid imagination on his own part, is not unfrequently that of disappointment. But a longer acquaintance almost always leads to a revulsion of sentiment, and a succession of visits to something of the enthusiasm of the earlier historians. A reasonable amount of valuable data with regard to the meteorology of Florida is supplied by the volumes of the "Medical Statistics of the United States Army;" but if one undertakes to judge of a climate, in a sanitary point of view, or of the fitness of any particular country or district for invalids, by mere latitude or temperature, or its variability or invariability, its dryness or humidity, he will fail to comprehend the philosophy of the subject. Its geography, especially its physical geography, must be studied, its position with regard to surrounding or neighboring seas or bodies of water, to great currents both of air and water, to its relation to storm-centres and tracks of storms, to mountain-ranges, not only within its own borders, but sometimes at a distance from them. Thus Florida has often been poetically described as "the Italy of America," yet the parallel which runs through the southern extremity of the peninsula is 25°, while the southern extremity of Italy is 38°. The Riviera is 44°, and the Isle of Wight and Torquay nearly 51°; yet the winter climate of the latter is very pleasant, and highly recommended in England for consumptives. While one can usually live in perfect comfort in Florida, even away from the coast, if at rest in the shade, under a temperature of 95°, the same person, under a like temperature in New York or Canada, would probably be in a state of mental and physical discomfort. It is the insular position of Florida, with the proximity of the Gulf Stream flowing north, and the cold arctic current flowing south, the comparatively narrow strip of country separating the Atlantic and the Gulf, and the numerous smaller bodies of water abundantly distributed over its surface, the prevailing winds always sweeping over water of a uniform temperature, which modifies the heat of summer and the cold of winter. "The peculiar character of the climate," says Dr. Robert Southgate ("United States Army Medical Report"), "consists less in the mean annual temperature than in the manner of its distribution throughout the year. Possessing an insular climate, the extremes of temperature are much modified; although the winter at Fort Snelling, Minnesota, is 47° 73′ colder than at Tampa Bay, the summer at the latter place is only 8° 24′ warmer. In the summer season, the mercury rises higher in any portion of the United States, and even in Canada, than it does along the coast of Florida." "Within the period of six years," says Forry, "the mercury at Key West was never known to rise higher than 90° Fahr., or lower than 44° Fahr." The *variability* of the winter temperature has frequently been noticed, and has been often alluded to, by those who have not had personal experience of the actual effects of these changes on the human system, or with the modifying influence on these changes of the peculiar constitution and surroundings of the State, many of which have already been pointed out, as greatly detracting from its value as a health-resort. A change in twelve hours, for instance, from 70° to 60° or 50°, has a very different effect on the sick from a change of a like number of degrees in Boston, New York, or Chicago. Practically, these variations are of actual benefit to those invalids who are tolerably careful, and who take the precaution to change clothing with the change of temperature. A continuous temperature of from 75° to 80° at mid-day, for a number of consecutive days, is generally felt as a serious inconvenience, especially by the more advanced and debilitated cases of phthisis, and these generally longed for the cold changes, knowing by experience their tonic effect, whereas the *steady* heat of some tropical regions, though not excessively high, and very agreeable to most persons, is generally followed by increased debility in the spring in the case of invalids. With regard to these variations of temperature, Dr. Southgate remarks, "Rarely is the change so great as to impress the individual in fair health, uncomfortably, and the invalid has invariably sufficient warning to guard against it." Surgeon-General Lawson, United States Army, speaking from an extended personal experience, says: "The climate of Florida is remarkably equable, and proverbially agreeable, being subject to fewer atmospheric variations, and its atmospheric ranges much less, than any other part of the United States except a portion of the coast of California." With whatever faults it may have, the climate of Florida, in comparison with most others, stands preëminent. I have watched, with some anxiety, the cases of those in the more advanced stages of consumption, when the diurnal temperature ranged, as it did last winter, from December 5th to December 16th, as follows: 78°, 82°, 82°, 83°, 84°, 81°, 82°, 81°, 81°, 80°, as I heard them complaining from day to day, and was gratified, when the mercury showed 69° at the same hours on the 16th, to hear their expressions of relief, and to see their entire change of manner and appearance. This was an unusual series of days for Florida in winter; but a high temperature of shorter duration is quite common, and the cool, sometimes cold, change which succeeds, so far from causing colds and pneumonic complications, common under like circumstances at the North, generally acts like a cold shower-bath, and braces up the system. The occasional wood-fires, around which the invalids so cozily congregate on the cool days, are never unacceptable as a pleasant change, and contrast favorably with the more uniform and debilitating heat and monotony of more tropical climates. Nothing, in fact, is so distasteful and injurious to most invalids as monotony. The writer has always believed in the traditional idea that when phthisis had arrived at the stage of softening, a removal to a warm climate is not a beneficial change, that a sudden and rapid increase of the trouble is pretty sure to follow. A study of such cases last winter has not tended to establish the correctness of this idea. On the contrary, the progress of the disease was slower, if not entirely arrested, provided the patients were not moribund (as they sometimes are) on their arrival, even with the disadvantage of being deprived of the comforts of home, which they so much need. Every village and hamlet in Florida can probably furnish its examples of people who have come there years ago, only, in the opinion of their friends, to die, and who are now doing well, some of them apparently in full health. It is impossible, of course, to say, without a physical examination, how many of these were cases of *chronic bronchitis*, or other affections simulating phthisis, but their history showed that they would almost certainly have died except for their change of climate. This little village, in which I have taken up my winter abode, can furnish several examples. It is very likely that the more uniform heat of tropical climates may furnish stronger evidence of the correctness of this commonly-received opinion among medical men.

The *temperature* is similar to that of a *typical* May or September in New York, and is usually delightful. For a period of twenty years, it was at Jacksonville, on the St. John's, for January, February, and March, 62°; at St. Augustine, 59°; at Pilatka, latitude 29° 34′, it was, last winter, for January, February, March, and April, at 12 M., 63° 50′. The average temperature, taken during these months every hour, from 12 at night until 6 A. M., was 57° 40′. A slight film of ice is occasionally seen during the winter, and slight frosts are not rare north of the 25th parallel, but not often injurious to vegetation. Williams, in his history of Florida, speaks of a snow-storm which appeared in 1774, and extended over most of the State. "The ancient inhabitants," he writes, "still speak of it as an extraordinary 'white rain.'"

As regards *hygrometric* conditions, it is necessary to say a few words. The "dampness" of the climate has been much talked about by those who have regarded only the physical aspect of the State, the large proportion of water existing everywhere, without any knowledge of the actual condition of the *air*. The air is, during *summer*, very damp. Guns, surgical instruments, etc., rust in spite of all precautions. More rain falls during this season than all the others combined. During the winter the case is entirely different. I found no special precautions necessary to preserve my instruments from rust, and boots and shoes, long neglected, showed no mould. At some of the prominent resorts in Florida the invalid is conscious of an unpleasant dampness after sunset, when out-of-doors and not in active motion. As a rule, these places are usually surrounded by large trees, with their usual funereal adornments of Spanish moss, which may, in some measure, account for this. At Pilatka, and at other points farther up the river, it is not so. This village, with an elevation of twenty-five feet, has a natural drainage on three sides, a peculiar soil, and no large trees, only the wild-orange, and other tropical trees of slight elevation, simply for ornament. Here, when the air is not too cool, one may be out until ten or eleven o'clock at night with comfort, though it is not *advisable* for invalids to be exposed at this hour. The dews, usually heavy, do not commence to gather until twelve o'clock, the mercury then commencing to fall, and falling steadily until five or six. Until 11 P. M., or later, last winter, a handkerchief could be swept over the grass—which is here, unlike other localities in the State, as green as in a Northern village in summer—without being moistened. When the mercury rises to 75° or 80° during the day, there are fogs; but the invalid rarely sees them, as they commence at midnight, or later, and are dissipated by the sun before their breakfast-hour. A great deal has been said, by those interested in other winter resorts, about the fogs and dampness along the river; but there is really no more dampness than is useful, indeed necessary, to prevent too rapid radiation of heat from the surface of the earth, and a consequent too rapid fall of temperature. Were it not for this provision of the climate, instead of a fall of ten or twelve degrees, we should, perhaps, have one of thirty to forty. In the desert of Sahara, for example, where the dryness is absolute, and radiation at night unrestricted, the temperature falls to the freezing-point; and on our Western Plains the difference between the diurnal and nocturnal temperature is sometimes 60°. Here, while the evaporation of moisture during the day tempers the heat, the condensation at night limits the cold. At Fort King, in the same section of the State as Pilatka, Forry gives the annual number of fair days as 309 for a series of years, and on the Northern Lakes 117. On the *coast* of Florida the number is 250. A moist climate is not necessarily bad for consumptives, though it is generally so. On the Nile, though most cases do well at Thebes and Cairo, others do better at Alexandria. The climate of Lima is very dry, yet consumption is very common, while on the mountains back of Lima the air is always damp and rain common, yet consumption is rare. *Cold* and moisture are always bad, but *warmth* and moisture may or may not be so. The question as to the influence of large bodies of water on the production and progress of phthisis is so important, especially to those physicians contemplating the adoption of Florida as a winter residence for their patients, that, at the risk of extending the limits of this paper unduly, I quote a very instructive table from Forry,[1] with an abstract of his remarks on the same, and his preliminary observations:

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[1] "The Climate of the United States, and its Endemic Influences, based chiefly on the Records of the Medical Department and Adjutant-General's Office, United States Army, 1842."

"Having already demonstrated that the regions of the United States, on the same parallels of latitude, present systems of climate very diverse in character, viz.—1. The regions bordering on the ocean; 2. Those under the influence of inland seas; and, 3. Those remote from such controlling powers—it will be seen that these laws of climate maintain an intimate relation with the etiology of pulmonary diseases. It seems to be a well-established law that the prevalence of *catarrh* and *influenza*, in each *system* of climate, increases and decreases in proportion as the seasons are *contrasted*, thus maintaining an unvarying relation with the extreme range of the thermometer as connected with the seasons."

"The following table presents, in a condensed form, so far as regards the *catarrhal* forms of pulmonic lesions, the results of the quarterly sick-reports of forty-five permanent ports, arranged in classes, comprising a period of ten years:

Divisions.	SYSTEMS OF CLIMATE.	Latitude.	Difference between the Mean Temperature of Winter and Summer.	RATIO TREATED PER 1,000 STRENGTH.				
				First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Result.
Northern.	*1st Class.*—Posts on coast of N. England.	43° 18′	38° 61	63	49	36	85	233
	2d Class.—Posts on N. chain of lakes..	46° 27′	43° 00	90	62	50	96	300
	3d Class.—Posts remote from the ocean and inland seas......................	44° 53′	55° 84	175	120	86	169	552
Mid.	*1st Class.*—From Del. Bay to Savannah.	37° 02′	32° 99	102	45	23	97	271
	2d Class.—Southwestern stations......	35° 47′	36° 83	122	61	33	78	290
South.	*1st Class.*—Posts on Lower Mississippi.	30° 10′	24° 39	82	34	26	60	218
	2d Class.—Posts in peninsula of Florida.	24° 33′	11° 34	45	24	40	33	143
	Average...........................	....	....	98	56	42	88	287

"This table contains, besides the results of the permanent stations, those of the thirty-one temporary ports in Florida."

"This table, which exhibits the annual and quarterly ratios of each system of climate, and serves to elucidate their relations and sequences, affords a beautiful illustration of the etiology of catarrhal affections as connected with the meteorological laws established. Take, for example, the Northern Division, consisting of the first three classes: On the New England coast, as the ocean modifies the atmospheric temperature, the annual ratio, treated per 1,000 of mean strength, is as low as 233; on the Great Lakes, where a similar modifying influence is in operation, it is 300; while the third class, characterized by the extreme range of the thermometer, has a ratio of 552. But let us follow more narrowly the isotheral and isocheimal lines (representing the mean temperature of summer and winter), which describe four curves within the same space, presenting alternately a *mild* and an *excessive* climate. As these lines, on the coast of the Atlantic, present comparatively little deviation from the terrestrial parallel, the ratio of catarrhal diseases is low; advancing into the interior, the line of equal summer rises, and that of winter sinks, and the ratio increases proportionally; proceeding into the region of the Lakes, the lines again converge beneath the controlling power of the waters, and the ratio of catarrh and influenza is modified accordingly; again advancing into the interior beyond these ocean-lakes, the average rises in proportion as the isotheral and isocheimal lines tend to opposite directions. In the other divisions the same law obtains. On the Atlantic coast, between the Delaware and Savannah Rivers, the annual ratio is 271, while the average of the interior posts of the Middle Division, notwithstanding this class lies somewhat farther south than the former, is 290. As most of the posts of the first class of the Southern Division are on the Lower Mississippi, and are much under the influence of large bodies of water, the annual ratio is as low as 218; while the second class, which comprises the mild, insular climate of East Florida, has an average of only 143." We thus see that large bodies of water modify climate favorably, and that the ratio of pulmonary disease increases with the increase of the mean *annual ranges* of temperature as *regards the seasons*, rather than the prevalence of sudden or diurnal vicissitudes; and that the injurious effects of moisture, even in *cold climates*, are more than counterbalanced by the modification of the *temperature* of the air induced by the warmth of the water; while in *warm climates*, in winter, the moisture has a positively beneficial effect in limiting the diurnal vicissitudes.

As regards *liability to disease* in Florida, a careful examination of the "Medical Statistics of the Army," extending through a long series of years, personal observation, and conversation with medical officers engaged in the Seminole War, indicate a remarkable exemption, throughout the State, from malignant or even very serious diseases. "At all seasons, with the exception of the Northern Division," says Forry, "the mortality is lower in East Florida than in any other class of posts." He ascribes this, in a great measure, to "its being nearly wholly in a state of Nature." Circumstances have changed since then, of course, and the clearing of the forests, especially the hammocks, has developed in the summer season a considerable increase of fever. Notwithstanding the excessive exposure and fatigue endured by our troops in the Indian wars, in penetrating the swamps and Everglades in pursuit of the savages, the amount of serious disease developed was remarkably small, and the ratio of mortality, as Forry has shown, correspondingly so—only twenty-six per 1,000; while in other portions of the United States it was thirty-five. General Barnes, our present Surgeon-General, informs the writer that on one occasion he accompanied a boat-expedition through a portion of the Everglades, and, although they were almost constantly wet, making their way at night, and for a time eating uncooked food, being afraid to light fires for fear of alarming the enemy, no severe cases of fever or rheumatism were developed in the detachment. General Crane, the Assistant Surgeon-General, gives similar testimony from his own experience.

In the "Statistical Report of the Sickness and Mortality of the United States Army," from 1855 to 1860, is a table, at page 163, which exhibits the sickness and mortality among the troops stationed at the interior Gulf posts, and embracing, especially as regards the former, the most unhealthy part of the peninsula. The number of *cases* for the whole year is 19,312, the *deaths* 119, or 0.61 per cent. There were but four cases of congestive fever, none of which died. It could therefore hardly have been of the severe character which is met with in other parts of the country. If we take into consideration the very unfavorable circumstances surrounding the small commands scattered over this area, the bad water, poor food, hard work, and continuous exposure of all kinds, the small percentage of mortality is remarkable, and shows that, although the cases reported for treatment are very numerous, the diseases of all kinds were very amenable to treatment and rapid cure; as all the military operations went on successfully, notwithstanding this very large amount of sickness. The very small percentage of deaths from diseases of the respiratory organs is especially noteworthy—only thirteen cases among the 19,000 of all diseases treated. Notwithstanding the dampness, rain, and exposure, there were only thirty-three cases of pleuritis and twenty-five of pneumonia. "I have served in Florida," says Surgeon-General Lawson (letter to the Hon. D. S. Yulee, United States Senate, October, 1855), "and have served also with an army on the Northern frontier, and, from my experience of the influence of climate and active operations in the field on the health of soldiers, I have no hesitation in expressing the belief that, had the troops engaged in the Florida War been engaged for the same length of time in active operations, in winter and summer, on the frontiers of Canada, though the *cases of disease* might have been less numerous, the *mortality* would have been infinitely greater, than was experienced in Florida."

Tourists are industriously warned, by persons interested in other localities in Florida, against the *malaria* of the St. John's River. It is undeniable that persons do occasionally suffer from it during the winter season. But it rarely gives trouble except to those who are unusually careless in exposing themselves, or in drinking well instead of cistern water.

The State abounds in springs of excellent water, but they are not always accessible. Rain-water, however, may always be had, even in the driest seasons, by providing large cisterns for storage. Lately, water has been procured by boring through the calcareous crust to the depth of sixty feet or more, and the water, when filtered, is pleasant to the taste. A qualitative analysis of one of these wells in the yard of the Putnam House, made by my friend Prof. Witthaus, gives the following result: Lime (carbonate and sulphate); magnesia (carbonate); ammonia, soda, chlorine, carbonic acid, sulphuric acid-(*traces*); silicic acid; organic matter; the latter in small quantity. This water ought not to take the place of rain-water for drinking-purposes. The cases of intermittent fever which do occur in the winter, generally among those who are visiting different points of interest up and down the river, and more or less exposed at night, are very manageable. It is not fair, however, to attribute every case of fever, which occurs among Northern visitors, to the Florida climate, since the disease has been so very prevalent, almost over the whole of the Northern States during the last five years, both in winter and summer, that it would be more rational to attribute the outbreak to latent disease contracted at home, and developed, as is characteristic of the disease, by change. In my own case, I had suffered from it for more than eighteen months, had failed to get relief from a summer's residence in Saratoga Springs, and have never had an attack since my arrival in Florida last December, though I remained there until the 10th of May, and although the winter was an exceptionally favorable one for the development of malaria, owing to the drought.

Dysentery and *diarrhœa* of a mild type, and easily managed, occasionally attack the winter visitor. Statistics, which I have not space to quote, show that *phthisis* gives fewer deaths than in any other portion of the United States. *Yellow fever*, even when it appears in other Southern States, rarely appears in Florida, except at Key West and Pensacola. It is almost unknown in East Florida. "This is only the second time," says Forry, alluding to St. Augustine, "that yellow fever has prevailed in this city for twenty years; while, at Charleston, we are told by Prof. Dickson that in twenty-four years' practice but three have passed without his knowing of the occurrence of yellow fever. As regards the essential cause of yellow fever, we still remain in the dark. It is manifest, however, that, to develop the cause, and to keep up its action, requires a high range of atmospheric temperature; and, as this condition seldom attains on the coast of Florida, it would seem to afford, in part, an explanation of its infrequent appearance in this region."

Who should go to Florida? When one thinks of our cold weather at the North, extending from October almost into June, with the last three months of alternate freezing and thawing, cold and damp, with their attendant crops of colds, influenzas, diphtheria, pneumonia, etc., one is disposed to answer, "All who can afford it." The *mass* of visitors, who now pour into the State to enjoy the winter, are not invalids in the strict sense of the term; many of those who are invalids are not perceptibly so to the general observer, and the average tourist is not therefore annoyed, as he feared he might be, by constant contact with sick and suffering people. Of course, of the *invalid* class, those afflicted or threatened with *phthisis* and its allied affections constitute the majority of the pilgrims to all southern climates. Although I do not countenance the practice of banishing those in the last stage of the disease from friends and the comforts of home, yet, as has been before stated, not all of those die, and an apparently rash and hopeless determination of a patient, perhaps in opposition to physician and friends, occasionally results in cure. Besides, a considerable margin ought to be left for a possible mistake in diagnosis. Our first-class diagnosticians would hardly require this margin, and many who do not come within this category will doubtless resent this insinuation. But a winter's experience in Florida among the invalid visitors would convince the most skeptical that modern diagnosis of pulmonary complaints, even among those who stand high in professional estimation, has not arrived at the degree of perfection usually accorded to it. Then there is a class of cases which would be greatly benefited by a winter's residence here, which is not considered of sufficient gravity by many physicians to be banished from home: those who present some of the rational symptoms of phthisis without any physical signs—a condition not unfrequently, at the present day, confounded with the effects of *malaria*—such cases as Dr. I. E.

Pollock had in mind when he said, in his recent lectures on phthisis, "Here"—that is, where we have "*a union of subfebrile symptoms with progressive waste of the body*—is danger without any physical signs." *Incipient phthisis, pneumonic consolidation, laryngeal and pharyngeal diseases*, have sought and obtained great and prompt relief from this climate, especially if not hereditary. Many cases of throat-disease are, however, sent here for the *local* affection, who have the seal of consumption already stamped on the countenance, yet who are in ignorance of any constitutional disease, and who become sorely disappointed at the slow progress, and sometimes the hopeless nature, of the case. Of all thoracic diseases, *chronic bronchitis*, not rarely confounded with phthisis, is most certainly benefited by a Southern winter. *Asthma* is benefited, but to what extent, and in what particular localities, I am not able to say. It has been claimed by invalids that a locality back of Mellonville or Sanford, on the river, is particularly efficient. Forry states that the patient who is suffering from pure spasmodic asthma, or that which is complicated with chronic bronchitis, or that which is symptomatic of primary irritation in other viscera, is much benefited; also asthma connected with affections of the heart. But he does not advise any particular locality. The earlier stages of *Bright's disease* may be more successfully treated here than in the inclement weather of Northern latitudes; also persons, especially those of a delicate constitution, convalescing from *measles* or *scarlatina*, particularly when the affection of the kidney or other sequelæ are slow in passing away. *Old age* finds in Florida a congenial winter home. Aside from the dangers of thoracic disease, to which this period of life is so peculiarly liable in our Northern spring climate, the *vitality* is impaired by the long winter and lagging spring. Many of this class of the male sex are also suffering from *vesical* and *prostatic* disease; and the impairment of cutaneous action, induced by cold, causes much suffering, and hastens an unfavorable termination. Many cases also of the other sex, whose vitality has become impaired by chronic *uterine disease*, and whose local ailments have been relieved, as far as possible, by local treatment, find a no less invigorating tonic in this balmy air. *Rheumatism* and some forms of *neuralgia* are benefited. Certain forms of *dyspepsia*, particularly such as may be termed *nervous* dyspepsia, which is, like other nervous affections, becoming more and more common—which is merely one of the many symptoms of modern "wear and tear," and which is often relieved completely, for a time, by the bromides, when various other treatment has failed—are permanently relieved by a winter's residence here. Lastly, Florida offers a haven of rest and quiet for that condition which is unfortunately becoming so prevalent among the restless, driving denizens of our Northern cities and towns, which comes under the comprehensive designation of *nervous prostration;* what Handfield Jones terms *cerebral paresis*, and which was thus described by James Johnson nearly fifty years ago:[1] "There is a condition of body intermediate between sickness and health, but much nearer the former than the latter, to which I am unable to give a satisfactory name. It is daily and hourly felt by tens of thousands in this metropolis and throughout the empire; but I do not know that it has ever been described. It is not curable by physic, though I apprehend it makes much work for the doctors ultimately, if not for the undertakers. It is that WEAR AND TEAR of the living machine, mental and corporeal, which results from over-strenuous labor or exertion of the intellectual faculties rather than of the corporeal powers, conducted in anxiety of mind and in bad air." For this cerebral consumption, as we may call it, Florida affords as soothing a balm as for the pulmonary variety. It is as unsatisfactory to treat the one as the other in the stimulating and exciting atmosphere of our Northern Babylons. There, everything is energy, hurry, and rush, at all times and at all seasons; when the body is at rest, the mind is not. Here, the tendency is always in the opposite direction. Here, the Northern blasts, as they approach our borders, are gradually hushed into whispers. There, the very streams seem to rush along their rocky beds as if afraid lest winter should congeal them before they reach their ocean-goal; here, the swiftest currents have not enough energy to form a ripple. All Nature wears so subdued and peaceful an aspect, as one floats on the broad and placid bosom of the St. John's, that the most restless mind soon becomes attuned to the same measure of repose. Rest has come again to the wearied spirit, sleep to the fevered pillow. "All that surrounds one in Florida," says Ledyard, "is suggestive of, and in unison with, rest; and nothing is more grateful."

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[1] "Change of Air; or, the Philosophy of Traveling," by James Johnson, Physician Extraordinary to the King.

When shall one go to Florida? This will depend on circumstances, extrinsic and intrinsic, as regards the individual, and may be left to the judgment of the physician. But, if an invalid has only a limited winter vacation, he had better spend it at the end than the beginning or middle. "When shall one *leave* Florida or the South?" is a more important query. Many not only sacrifice all the benefit obtained by a winter residence in the South, by yielding to an impatient desire to get home too early in the spring, but are actually damaged to a greater extent than if they had remained at home. Even healthy persons, who go South merely to avoid a disagreeable winter, are rendered more sensitive to cold, and contract colds or catarrh, by going North too soon. One may *commence* getting homeward in April, if he tires of sameness; otherwise, he need not move until May. But he should not get north of Virginia until the third week in May. If the climate of Florida becomes oppressive in April, Aiken, or Beaufort, in South Carolina, affords a more bracing and, at both the beginning and end of winter, a delightful change. He should not arrive in the latitude of New York until the third week in May, better even the first of June, if he has actual pulmonary disease.

How shall one get to Florida? There are many routes, by land and by sea. The feeble invalid, if he takes the former, should go by easy stages, and not rush. The latter part of the journey is so slow and tiresome that, unless he has an unusual repugnance to the sea, it would be better to take one of the very good steamers, of which there are several lines, the most popular being that which touches at Charleston, where a transfer takes place to the steamer which goes direct to Jacksonville and Pilatka. Being once aboard, all fatigue is at an end, and the four days of sea-voyage are generally beneficial to pulmonary and throat affections. The warnings of our excellent signal-service now render ocean-travel by steamer, on the coast, almost perfectly safe. *Sea-sickness* is the dread of many. There are several means by which this may be greatly alleviated, and frequently entirely prevented. First, one may take *bromide of potassium* in doses of twenty to thirty grains three times a day, for three days preceding embarkation. This deadens nervous impressions on the centres, and blunts reflex action. I was led to infer this power of the bromides from their efficacy in preventing the vomiting induced by anæsthetics. Then, the *belt* recommended by Jobard, of Brussels, is, in many cases, a valuable preventive. It is worn, *as tightly as can be conveniently borne* (which gives less trouble to females than males), around the *waist*, and should be shaped to fit well, and be provided with bones like corsets. I have had some made at Tiemann & Co.'s, 67 Chatham Street, after Jobard's pattern. His idea, that it acts by preventing friction of the viscera against the diaphragm, thus provoking it into action, is untenable. It may act by the support and compression afforded the great vessels in the abdomen, thus preventing or limiting the variation in the blood-pressure in the brain; or the pressure may influence the semilunar ganglion. The former is the more probable explanation, since persons who have made several voyages have found that, by managing their respiration in a certain manner, the sickness may be prevented. That is, by accustoming one's self to take an *inspiration* as the ship descends with the wave, and making the expiration correspond, as far as possible, with the rise of the ship, this apparent sinking of the ship under the landsman being the motion most likely to induce the sickness. Vomiting and nausea, from a variety of causes, are frequently cured, after the failure of all ordinary means, by the use of electricity by faradization. The writer first called the attention of the profession to its remarkable effects in this respect, in an article in the first number of the *Archives of Electrology*. He has not had sufficient evidence yet to *prove* its value in sea-sickness, but such as he has had is favorable. A small Gaiffe battery, which is inexpensive and easily manipulated, can be readily managed by the patient or a friend, one wet electrode being kept on the epigastrium, the other over the spine, or rather just to either side of it, unless it is large enough to extend across, and then over, the seventh cervical vertebra.

How shall one live in Florida? This question will not be fully answered here, as it will be again taken up. Those who have a fondness for out-door life, hunting, fishing, etc., and who have the vigor to endure a little hardship, may form a party, provide the necessary equipments, and, with Hallock's "Camp-Life in Florida" and similar books as a guide, may find abundance of novelty, adventure, and game. If they need any other advice, I have no doubt my friend *Al-Fresco*, Dr. C. J. Kenworthy, of Jacksonville, will kindly furnish it to any of his *confrères* of the profession. One may live in good boarding-houses at ten to twelve dollars per week, with good rooms in pleasant situations, but, if he can afford it, the hotels in most places of resort are far preferable on the score of food. This is especially the case on the St. John's, where the hotels have an exceptionally good reputation. *Good* and *well-cooked* food is a *sine qua non* in the case of such diseases as those for the alleviation or cure of which people come to Florida. Full nutrition of the body is of the highest importance, and patients should never sacrifice to a desire for cheap board; it is better to make almost any other sacrifice. Many failures, attributed to the climate are probably due to error in this respect. If appetite or digestion fail for lack of inviting or digestible food, and this cannot be obtained, the invalid had better go North and brave the cold, if he has a comfortable home. If possible, one should always secure a room into which the sun shines during a considerable portion of the day, especially the morning sun. Nothing is more cheering, and nothing is more beneficial to the chronic invalid than sunlight. No trees should be allowed to intercept the sun's rays. If too hot, it can be moderated by awnings or blinds. A sickly plant is revivified by sunshine and light, and the invalid animal responds equally, if not so apparently, to their stimulating influence. We have banished the traditional heavy and dark-colored hangings which formerly adorned the bedsteads of the sick. Let us equally banish them from the windows of the sick-chamber, and admit the glorious light and air of heaven to assist our tonics with what no artificial tonic can supply. Let us endeavor to cure our patients of a prejudice which James Johnson aptly terms *phœbophobia.*

With regard to the *clothing* proper for the winter climate of Florida, it is seldom that the *invalid* will want that which we wear at the North in summer, but rather that suitable for a moderate winter or late fall. Moderately thick clothing will be sometimes a little oppressive in the middle of the day, but always pleasant in the morning and evening. A tolerably thick overcoat or shawl, as the case may be, should always be taken along when one goes to ride, or in a steamboat, as the rapid motion creates a draught through the saloons. Thin woolen clothes should be worn at all times.

A most important desideratum for the invalid is *occupation*—something to give employment to both mind and body. Want of it is the stumbling-block to the improvement and enjoyment of too many of our Florida visitors. *Ennui* is a dangerous enemy of the invalid. His thoughts, when not employed upon something external, are sure to be turned upon his disease, whether imaginary or real, and usually to his detriment. "Employment, which Galen calls 'Nature's Physician,' is so essential to human *happiness* that indolence is considered the mother of misery."[1] English soldiers in the West Indies, while idle, though kept out of the sun, and taken care of, were far more disposed to diseases, says Robert Jackson, than when kept at moderate labor nearly all day long, building roads in a marshy district. Lanier, in his interesting little volume on Florida, himself an invalid, thoroughly appreciates the importance of this subject. He says: "Endeavor to find some *occupation* consistent with your disease's requirements. Brooding kills. If you are near a Florida farm (e. g.), interest yourself in something which is going on there, the orange-culture, the grape-culture, the banana, the fig, the early vegetables, the fine tobacco-culture and the like. The field of Florida in these matters is yet so new, so untried by the resources of modern agricultural improvement, as to be full as fascinating, if one should once get one's interest aroused in it, as it was in the old days when the Spaniards believed it to be full of gold and pearls." Many invalids came to this spot last winter, and, finding nothing to interest them, although acknowledging the superiority of the climate, wandered off in search of novelty. Many others, although remaining here for many weeks, found that there were objects of interest still unexamined when they left, although pretty industriously employed all the time. The fault, in these cases, is generally in the individual, not in the place. Some seek out sources of interest and amusement for themselves wherever they go; others of different tastes, or less inquiring habits of mind, yield to the temptation of indolence. Those who have become *blasé* from frequent visits to ordinary haunts of visitors may, if they possess the requisite strength and energy, strike out a new course, and explore almost untrodden regions, and without any particular danger or discomfort. "Of the tens of thousands," says A. M. Conklin, "who, each winter, go to Florida in search of health and pleasure, few if any ever hear of this delightful interior country," referring to the Kissimmee and Okechobee region, "which is as little known to the outside world as Amazonian forests, East India jungles, or the lakes of equatorial Africa." Besides the *natural beauties* and objects of interest, there are some of the most interesting relics of the *mound-builders* to be found in the State. Their location and peculiarities are described in the December (1875) number of the *Forest and Stream*, with a map. Visitors last winter found much to interest them in their visits to the mounds which are scattered along the St. John's River above Pilatka, and their explorations therein. These remarkable works of ancient art scattered all over our country are still a mystery, to some extent, to our scientific authorities, and an examination of the subject, as found discussed in the many interesting works by Baldwin, Jeffries Wyman, and others, in connection with the explorations and examinations which they can prosecute themselves in Florida, will be found to afford agreeable and perhaps profitable diversion to body and mind for a considerable portion of the winter.

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[1] Burton, "Anatomy of Melancholy."

Physicians, in sending their patients South, frequently advise them by all means "to avoid drugs and doctors." The same advice, at home, might often be good for those who have a *propensity* for too much indulgence in these luxuries (?); and doubtless has, in some instances, saved invalids here from injudicious medication and advice. But, from my experience last winter, I judge that a much larger number have been directly injured by it, and, not unfrequently, it has cost them their lives, through neglect of the early treatment of serious complications. Any physician in large practice in Florida, or any boarding-house keeper, can furnish instances of this kind. There is no prominent resort in Florida where respectable medical advice cannot be had—advice which would certainly be far better than the usual plan of trusting to luck or Nature, or the advice of lady-friends, or the carefully-put-up bottles and packages brought from the North to meet all the indications for treatment which may chance to arise during a long winter. Unless the medical knowledge and diagnostic skill could also be bottled up to accompany these last, they will be likely to prove a delusion and a snare. For a delicate invalid, the risk of a faulty diagnosis, of mistaking the inception of a serious complication, or of a disease, for some simple derangement, is too great, much greater than that of getting medical advice; provided due inquiry is made for the best. Besides the local physicians, there are now, always in all frequented places, medical men from other portions of the country, well known to the profession. The writer will refer to only one instance, in illustration, out of many which have fallen under his observation. A well-known physician of one of our largest Northern cities accompanied his patient to Jacksonville the past winter, and introduced him to a prominent physician of that place. Subsequently, the latter was called in, and found that the gentleman had, from some imprudence, taken a severe cold a few days before, and had been endeavoring to get along the best way he could without medical advice. He said, "Doctor, I don't know if I have done right in sending for you, for Dr. —— charged me not to send for a physician unless it was absolutely necessary." The disease proved to be capillary bronchitis, which is frequently irremediable even if taken at the onset. He was in a hopeless condition, and died within twenty-four hours. Another, scarcely less serious, and even more prevalent error, in the writer's opinion (one, indeed, to which we must all, to a certain extent, plead guilty), is, concealing from the invalid, and even also from the friends or relatives, the true nature of the disease. This entails unpleasant consequences both on the profession and the patients. The *true* pathological condition not being stated, the different physicians who may be called in at different times to examine the case are not apt to hit upon the same statement, and thus the public berate us for *disagreeing*, and the science of medicine is scandalized, or our honesty is impugned. One says to the invalid, "Your lung is a little weak;" another, "There is a little pleuritis at the top of this lung;" another, "There is some consolidation at the apex;" or, "The air does not enter quite as well in one lung as in the other;" or, "There is a little bronchial difficulty;" "The tubes are slightly affected." Often "chronic pneumonia" is diagnosed. If there has been hæmorrhage, especially if it has been slight, the patient is always, in his anxiety to make out his case as favorable as possible, ready with his explanation to the physician that "it is only from my throat, I suppose?" The doctor says, "*Possibly* it is," and fails to undeceive him when he finds, as he usually does, that it isn't. Then the patient tells his second and his third physician that his "doctor" says it is only in his throat, and the other physicians wonder, perhaps, how so eminent an authority could make so glaring a blunder. Now, all these assertions are *literally* true, but they are not the *whole truth;* in fact, but a very small part of it. A *medical* man knows what a "little weakness in one lung" signifies, but the patient does not; or "a little pleurisy" at the apex; or "a consolidation," or "the little bronchial difficulty," etc. He knows it means in nineteen cases out of twenty, incipient phthisis—"*consumption.*" But the patient does not, and he is very sure not to cross-question the doctor too closely, if at all. He is only too glad to have his fears allayed so easily. Behind these comparatively trivial secondary affections, there is often tubercular deposit, or, if one prefers to call it so, permanent pneumonic consolidation, or softening; or, not unfrequently, already a cavity. Many patients come to Florida with extensive softening in one or both lungs, with the consent, if not the advice, of their physician, who dreads to tell the whole truth, and to crush the bright anticipations of cure, which they and their relatives have formed, through the instrumentality of the climate of this favored region, of which they have heard so much; and, perhaps, hoping that, at least, a temporary lull in the progress of the disease may be obtained. When an early death occurs, with none, perhaps, but strangers around, and the body is, according to custom, sent home by express, then the physician's reputation suffers, or that of Florida. If he is right, Florida is wrong. But Florida cannot work miracles. It is true, the physician is often met at the threshold, by the friends of the invalid, with the caution, and often *quasi* command, "Don't tell her she has consumption—it will kill her if you do!" One may well say, on the contrary, "It will kill her if you don't." In the long-run, the effects of the deception are far worse than those of the truth. The former are far-reaching and continuous, hampering other physicians in *their* management of the case; while the latter are transient, though, no doubt, at times distressing and severe. No matter how slight, then, the beginnings of the disease may be, the moment we are certain, we should say to the patient, "You have what will result in 'consumption' without proper management." In fact, in most cases, we can say, "You have the beginning of consumption." If the announcement is made in a proper manner, which the physician's tact will enable him to vary according to the idiosyncrasy of his patient, the shock is slight, and entirely neutralized, and the patient's confidence reassured, by the further statement that, with due care, and proper hygienic and remedial measures, the disease can be cured just as certainly as many other diseases. It would be a waste of time, and a superfluous attempt, at this epoch of medical history, to undertake to *prove* this. Consumption has always been considered one of the *opprobria medicorum.* But there is no reason for this. Consumption is as curable as any other chronic affection—more so than many of them, if we can command the *conditions of cure*, if the patient can avail himself of the proper remedies. Most diseases would be incurable without a resort to the proper remedies. It so happens, however, that most of the best remedies for this disease are unattainable by the majority of those afflicted by it; also, that most patients, influenced by the delusion which is so characteristic a symptom, and often by the concealment of physician and friends, delay treatment. Hence its great fatality. The cure of phthisis will never be found in any drug or any combination of drugs, although these are valuable, and, indeed, in most cases, indispensable *auxiliaries*. There is no disease, in which skillful diagnosis, sound judgment, judicious advice as to habits, occupation, climate, all the minutiæ which enter into individual daily life, are so well repaid by corresponding success as in this. *Change* is generally the key-note to our management of incipient phthisis—change of locality, of air, of almost all the habits, leaving off bad and adopting good; *ventilation*, *exercise* (judiciously managed), *food*. Now, it would be mockery almost for us to say to the poor shoemaker, or compositor, or tailor: "Your only chance is change of climate, of occupation; you must give up your close room with its confined and poisoned air. You must take to the sea or the farm, to out-door work and regular exercise, good food, sound wine, fewer hours of work," etc. We are driven to the only alternative. When we cannot get the *proper* remedies, we must do the best we can. We prescribe such hygienic rules as *can* be observed. We prescribe cod-liver oil, phosphorus and its compounds, palliatives for cough, etc., and we thus lengthen and render more tolerable the lives we cannot save. Sometimes, even under these untoward circumstances, we do save life. All do not die, by any means. The physician who, at this day, consigns his consumptive patient to the realms of despair even in the more advanced stages of the disease, without an effort to save him, scarcely appreciates his mission to its fullest extent. Suppose, then, that our invalid *knows* that he has incipient consumption, or that condition of lung, call it by whatever name you will, which under *ordinary circumstances* will almost surely result in actual consumption. He is cheered by the confident assurance that his chance for complete recovery is good (we are speaking of those able to avail themselves of our advice); that, at all events, if he does not completely recover, his life may be greatly prolonged. But, he also understands that his life is, so to speak, in his own hands; that he must, in a measure, work out his own salvation. He knows that he banishes himself from home, perhaps from friends also, to make a *fight for life.* He ought to know, likewise, that the fight is not to be a short one; that perseverance is necessary, and a patient acquiescence in all the minutiæ of the advice of his physician, *however much and often it may conflict with his wishes and his temporary pleasures.* Without this knowledge, it is almost impossible to get the patient to avoid the most outrageous infractions of the most simple rules. The physician must see to it that his patient is not *hampered* by too much advice and too strict rules. Here, judgment and a study of individual character come into play. Some patients may bear consignment to the backwoods, to the interior pine-regions—no doubt, *per se*, the best place for many. But something more than dry air is needed. Many would almost as soon be buried. Many qualities of climate and location, besides that of moisture or dryness, are to be considered in making a choice for individual patients—congeniality, amusements, occupations, diversion of the thoughts from within, life, activity, facility of access to and from the outside world.

But, suppose the disease is *not* incipient. Suppose it is advanced, that it involves a considerable portion of the lung, that softening has commenced, even an abscess exists. It may be asked, "Would you still inform a patient of his condition?" *To a certain extent*, yes! How far, would depend on the individual. There are exceptions to all rules. Such conditions involve more stringent rules and advice than the milder cases; and few patients will be disposed to submit to them at all times if they are not *impressed* with the *necessity*, and they cannot be so impressed if they are told that nothing very serious exists. The *general* condition of many of these—the appearance, the figure, the muscular strength, the appetite, the sleep, the ability to sustain considerable fatigue—may be good, or quite fair; and it requires no small degree of confidence in a physician to convince such invalids that their condition is such as to demand so close an adherence to hygienic rules. Even if the usual debility, cough, emaciation, etc., exist, the delusion, which is an almost inseparable attendant on the disease, prevents the invalids from *realizing* the meaning of these symptoms. Being in ignorance of their condition, they are constantly wondering why the cough cannot be "stopped;" why the hoarseness or soreness of throat cannot be arrested; why the expectoration cannot be checked; why they do not gain flesh or strength more rapidly, like others whom they look upon as afflicted with the same form of disease. If the physician has kept them in ignorance of their condition, he cannot explain himself satisfactorily; his apparent want of success impairs confidence, and they apply to some other; and, in going from one to another, and from one location to another, and thus undergoing a succession of experiments with various drugs and various climates, they lose the only hope, which is in a *steady perseverance.*

Some of the reasons *why invalids fail to secure the advantages which they have a right to expect from a winter residence here* have just been incidentally considered: a want of proper appreciation of their condition, and of proper advice, leading to want of proper care. In fact, the extent of the recklessness and the want of common-sense exhibited by many invalids would not be believed by any one who had not observed it. Even the remonstrances of friends seem to influence them but in a trifling degree. My friend Mrs. Alexander Mitchell, of Villa Alexandria, near Jacksonville, can corroborate this statement, as almost any observing person here can. Her house and grounds affording, from their beauty and tasteful adornment, a source of pleasure to visitors, she is sometimes almost overwhelmed by them, and she related numerous instances of the temerity of invalids, ladies especially, in coming over in frail sail-boats in the most inclement weather, and clad in the most unsuitable garments, sometimes arriving drenched with spray or rain. On one or two occasions she has had to send out her boats to rescue them. In fact, her experience teaches her that, if there is a particularly unsuitable day for visitors to venture on the water, she must expect a batch of invalids. Her kind remonstrances seem to be entirely unheeded, the same invalids not unfrequently repeating the operation. Instead of getting the best advice as to location, and remaining there a reasonable length of time for testing it, they remain a day or two, and, if the weather happens to be unpropitious, or the hotel-table not precisely what it should be, or the company not particularly agreeable, or the evenings dull, off they go to try another experiment, thus traveling from one place to another all winter. Suppose they find a place which they cannot but acknowledge to be all they could expect as to climate, accommodation, fare, etc. One would suppose that any sane invalid would be glad to remain there. No! "I am getting tired of this place." "It is so dull." Or, "My wife don't like it," or, "My daughter don't enjoy herself." And off they go in search of variety and excitement. Life and health weigh lightly against matters of such magnitude as these! A party is made up, when the weather is fine, to go to some lake or stream on an excursion. When the hour arrives, the wind has changed, and a cold, wintry blast is sweeping from the north. Of course, you would say, "The invalids won't think of going." Not so. They are usually among the first to protest against any postponement; asserting, without knowing anything about it, that the wind will soon change and the day be pleasant. And then they must *see* everything that is to be seen. They must stand in the forward part of the boat, where the view is best, and the draught is worst. Many, on the other hand, come to one locality, and, without any competent medical advice, *do* stay a whole winter, getting worse all the while. But they like the place, the room is good, the music is fair, there are frequent "hops" for the daughters, and they are *hoping* all the time to get better. Then, when spring comes, they go home, and condemn *Florida*, as if the whole State, like France, were represented by one city.

For instance, Miss M., and a gentleman-friend suffering from lung-trouble, went to Sarasota Bay, then to Manatee, on the Gulf coast. They were out of the world and uncomfortable, and getting rather worse than better. But they remained; and, in order to get away in the spring, had to proceed some miles in a small boat to the coast to await the uncertain arrival of the little steamer plying to Cedar Keys. And here they were exposed for two days; and both are naturally rather "disgusted with 'Florida.'" Again, the invalid, on the way down in the cars, takes a slight "cold;" nothing more likely. The cold is neglected, it gets worse; the cough increases, the nights are thus made restless and sleepless, the appetite fails, there is some fever. The husband or mother gets nervous. "The climate don't agree," and perhaps they go home again, or go to St. Augustine, or to Aiken, or Jacksonville, or Pilatka, or somewhere else, anywhere except where they ought to go, that is, to a competent physician for advice, as to what they *should* do. A *suitable* change may be required, or perhaps only a simple cough-mixture, and a little judicious nursing is all that is required to give the climate a "fair show." Sometimes the change of water or climate causes a diarrhœa, or it may set in as one of the accidents of the disease. It is a simple matter if managed in the proper manner, and, in a healthy subject, would perhaps require no treatment. But it continues. The invalid finally consults a friend. She has a specific, of course; this fails. Another is "sure." This don't succeed. Finally, perhaps after considerable damage is done, a physician is consulted as a *dernier ressort.* Loss of appetite is a not unfrequent complaint among this class of invalids. But this is endured, and worried about, and friends are again consulted, and "bitters" are recommended, and the winter is thus wasted to a considerable extent. It is a very common occurrence, and one of the greatest nuisances of Southern watering-places in winter, for patients to lose their sleep, night after night, for weeks sometimes, with a most severe and persistent cough, and seemingly not to be aware of it. At all events, they consult no physician; and the distress and insomnia, and other troubles arising from it, sometimes completely counterbalance any good effect they might have derived from the climate. Hotels sometimes lose some of their best families in consequence of one person on a corridor coughing night after night. It would be tiresome to multiply these examples. One might adduce scores. They are mentioned as a hint to those who may be benefited by them. They are not, by any means, overdrawn. The writer is willing to risk the suspicion that he may have a selfish object. Those who know him will give him credit for a better motive. The following remarks, of a writer[1] than whom no one is better qualified to give advice on this subject, are so appropriate in this connection, that they ought to be quoted at length: "Let not the invalid, however, trust too much to a change of climate. Unfortunately for the character of the remedy, it has been recommended indiscriminately, and without proper consideration. It has been too often resorted to as a last resource or a forlorn hope; or, in cases susceptible of alleviation or permanent cure, it has been wholly misapplied. One person is hurried from his native land with the certainty of having his sufferings increased, and his life shortened, instead of being allowed to die in peace in his own family; while another, who might derive much advantage from the change, is sent abroad wholly uninstructed in regard to the selection of a proper residence, or ignorant of the various circumstances by which alone the most suitable climate can be rendered beneficial. It is one of our most powerful remedial agents, and one too which, in many cases, will admit no substitute. But, much permanent advantage will result neither from traveling nor change of climate, nor their combined influence, unless the invalid adheres strictly to such regimen as his case may require. This remedy—change of climate—must be considered in the light of all other therapeutic means, and, to insure its proper action, it is requisite that the necessary conditions be observed. The patient should, in a measure, regard the change of climate as merely placing him in a situation more favorable for the operation of the remedies demanded by his disease." These remedies, whether local or general, or both, though ineffective in a northern climate, may become curative when aided by the healing influences of a southern climate and out-door exercise and employment.

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[1] Forry, *op. cit.*

ART. IV.—*Anatomy of the Fasciola Jacksoni.* By R. H. FITZ, M. D.[1]

DR. COBBOLD has applied this name to a fluke discovered by Dr. J. B. S. Jackson in the gall-ducts of an East Indian elephant. In his "Descriptive Catalogue of the Medical Improvement Society's Cabinet," published in 1847, Dr. Jackson records his observation, speaking of the parasite as a *Distoma hepaticum*, but gives no account of its minute anatomy.

Diesing ("Systema Helminthum," 1850, vol. ii., p. 560") had noticed this statement, and, according to Cobbold, allowed it to appear in his "Revision der Myzelminthen" as the *Distomum elephantis.*

In 1868 Cobbold received two of the parasites from India, which were compared with a number of others, shown by Prof. Huxley, and he was thus enabled to ascertain that they represented a distinct species, which he has described somewhat in detail as follows ("Entozoa," supplement, p. 80, London, 1869):

"Body armed throughout with minute spines, orbicular, usually folded at either end toward the ventral aspect, thus presenting a concavo-convex form; oral sucker terminal, with reproductive papilla about midway between it and the ventral acetabulum, intromittent organ one-fourth inch in length; digestive apparatus with two main zigzag-shaped canals, giving off alternating branches at the angles thus formed, the ultimate cæcal ramifications together occupying the whole extent of the body; length, when unrolled, from one-half to five-eighths inch; breadth, one-third to one-half inch."

In the book referred to, Cobbold suggests "that (if, happily, the flukes are still preserved in the Boston Museum) it will be found that they specifically correspond with those now in our possession."[2]

Dr. Jackson has preserved a large number of the flukes, and has generously placed them at the disposal of Dr. H. P. Quincy, who has made and presented to the Warren Museum the series of admirable preparations in which the following observations were made:

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[1] Read before the Boston Society of Medical Sciences.

The sections are longitudinal, transverse, and horizontal, and are so arranged that the entire length, breadth, and thickness, of the animal are preserved as numerous thin sections arranged in the natural sequence.

The sections have been stained in carmine, rendered transparent in oil of cloves, and are preserved in dammar varnish. A study of them has not only enabled me to confirm Dr. Cobbold's surmise, but has also brought to light certain features in the anatomy of the fluke of which I find no mention in the authorities I have consulted.

The special characteristic of the Fasciola is its dendritic or branched intestine—the Distoma having a simple, bifurcated intestine. The *Distoma hepaticum* or *Fasciola hepatica*, the common liver-fluke, the *Fasciola gigantea* found by Cobbold in the giraffe, and the present *Fasciola Jacksoni*, are the only forms of Fasciola yet described.

With regard to the latter, it may be stated in brief that its general shape and dimensions are as mentioned by Cobbold, and the intestinal canal has the distribution as stated by him. Instead of there being a reproductive papilla, there is rather a pocket, or depression, midway between the pharynx and ventral sucker, into the lower part of which opens the oviduct, or vagina, while in the posterior wall nearer the ventral surface is the opening for the penis. The length of the intromittent organ could not be ascertained, as it was either wholly retracted or destroyed.

Instead of finding the "body armed throughout with minute spines," the cuticle covering the abdominal surface presents a series of ridges pointing backward, and extending the entire length of the animal. Traces of a similar formation are present on the dorsal surface of the neck—elsewhere the back is quite smooth.

The cellular structure of this fluke and the arrangement of the muscular bands do not differ from the statements made by Leuckart ("Die Menschlichen Parasiten," 1863, vol. i., p. 536) with regard to the *Distomum hepaticum*.

Just beyond the terminal oral sucker is a voluminous, bottle-shaped, muscular pouch, the pharynx, with which a short tube, the œsophagus, communicates. The latter has a crenated outline, as if capable of a considerable elongation. This tube bifurcates at its lower end; the two short branches thus formed pass respectively to the sides of the animal, and enter the main intestinal canals, which extend, one on either side, along almost the entire length of the body. These canals are widely separated from each other until they approach the tail, and between them lie the sexual organs, male and female, toward the front, the remaining space, between, behind, and around, being filled in by the yolk-glands or tubes, and the cæcal pouches of the intestine. The latter arise as primary, secondary, and even tertiary divisions from branches given off more or less alternately from the main canals, and their general direction is backward. Those running toward the median line are short, with comparatively few branches, while the external tubes are considerably longer, often bifurcating before the secondary and tertiary canals arise. The largest number of cæcal pouches are thus observed in the outer portions of the parasite. Another peculiarity of the external canals is, that their secondary branches are almost invariably given off from the posterior aspect of the tubes from which they arise. The intestine is lined with a cylindrical epithelium said to be ciliated, but in the specimens covered with a material resembling inspissated bile.

Another system of tubes, the excretory apparatus, is merely indicated in the specimens, which have been preserved in alcohol, by occasional clumps of delicate, finely-granular epithelium arranged in a somewhat tubular form, the tubules often being branched. Leuckart describes a diverticulum passing from the posterior end of the oral sucker below the pharynx. I find also this condition, though it is present in the longitudinal and horizontal sections, on both sides of the pharynx. I am, therefore, inclined to agree with Mehlis, who regards this appearance as representing a furrow which encircles the projecting end of the pharynx, the nose of the bottle, and seems to promote the process of suction.

The sexual organs are male and female. The former include the penis and its sac, the seminal vesicle—vasa deferentes and testicles. The female organs are the oviduct through which the ova are discharged, the uterus, ovaries, yolk-glands, shell-gland (Leuckart), and vagina, through which impregnation probably takes place. The existence of the latter tube has attracted my special attention, as I have found elsewhere no mention of its presence, and it suggests another complication in the very obscure propagation of the flukes.

The shell-gland may be regarded as the centre of the female sexual organs, as it receives from above the formative and impregnating material, and discharges its contents into the uterus below. It is a rounded, glandular body, of considerable size, lying toward the back of the fluke, and behind the seminal vesicle. Its interior is a globular cavity, somewhat pear-shaped, becoming narrow below where it is continuous with the convoluted tube representing the uterus. Above it communicates, by a short, narrow tube, with the conjoined yolk and ovarian ducts, into the ovarian part of which the vagina enters. The ovaries lie toward the ventral surface of the animal, a short distance behind the ventral sucker, and are two large convoluted tubes with blind projections. These tubes unite near the median line into a single tube or duct, which passes upward toward the front of the shell gland, becomes very narrow, and at one point sharply constricted. Into this narrow duct, beyond the constriction, enters the vagina, and the tube then unites with the yolk-duct, forming a T-shaped figure, the lower arm of which enters the interior of the shell-gland, as before stated.

The yolk-glands are clusters of cells widely distributed throughout the body, and which are apparently connected, eventually two main tubules being formed on either side of the shell-gland. These are connected behind the latter by a transverse tube, from the middle of which arises the narrow yolk-duct, which unites with the ovarian duct.

The vagina is a delicate, convoluted tube which extends vertically upward in the median line over the shell-gland opening upon the back of the fluke. The upper portion of its course has a circular coat of muscular fibres.

The uterus passes downward from the shell-gland as a convoluted tube, which soon becomes very voluminous, and is filled with ova in various stages of development, and granular masses, largely yolk, and partially, probably, spermatozoa. The convolutions of the uterus lie rather behind and around the ventral sucker, toward the ventral surface. The tube finally becomes narrow, with a strong muscular wall, and is thus continued forward on the left, between the seminal vesicle and the ventral sucker, emptying into the genital pouch.

The testes are large convoluted tubes lying chiefly behind the uterus and shell-gland toward the abdominal surface. The vasa deferentes pass forward on either side of the shell-gland and enter separately the posterior and lower end of the seminal vesicle. The latter lies near the dorsal surface of the animal, and extends from just behind the posterior border of the ventral sucker nearly to the genital pouch. Broad behind, it becomes narrow and eventually pointed toward the front, where it is separated on the right by a partition, from a space in which lies, slightly convoluted and imbedded in loose cellular tissue, the muscular tube leading to the penis. This space forms the beginning of the cirrus pouch, which is continued downward and then forward, to terminate in the genital depression.

Leuckart, in describing the anatomy of these parts, calls attention to the difficulties in the way of self-impregnation—a view advanced by some writers. He further considers the apparent difficulties of copulation between two flukes, owing to the relative positions of penis and vagina (oviduct), the spiral shape of the former and the direct course of the latter, and the marked difference in their volume.

Cobbold has actually observed sexual congress in case of *Distoma conjunctum*, so that self-impregnation is not a theoretical necessity in case of the hermaphroditic flukes. In considering the physiological purpose of the dorsal tube I have spoken of as a vagina, it seemed to me most likely to serve as a channel for the passage of spermatozoa, from its intimate relation with that part of the sexual organs where the ova were found. That the eggs might be impregnated, they should be without shells, and the only place where such are found is between the ovarian duct and the upper part of the uterus. Did the spermatozoa ascend from the genital pouch, a very long distance would have to be gone over, through a tube narrow and firmly contracted at its lower end, tortuous and distended with eggs beyond. The mechanical difficulties were so marked on the one hand, and so simple and direct an apparatus existed on the other, that I feel no hesitation in speaking of this dorsal tube as a vagina. An additional argument in favor of this view is derived from the presence in the tube of a small amount of finely-granular material resembling the contents of the seminal vesicle.

Appendix.—Soon after the above communication the third and final Lieferung of Leuckart's "Menschlichen Parasiten," just published, was received. I find that Stieda[1] has described the dorsal tube alluded to. He at first considered it as a channel for the removal of superfluous yolk, but later[2] regards it as the true vagina, and shows that it exists largely among the Trematoda. The presence of a special vagina, distinct from the oviduct, has since then been determined by other investigators so often, "that it may be regarded as a general characteristic of the Trematoda."

Notes of Hospital Practice.

ST. FRANCIS'S HOSPITAL.

Apparatus for supporting the Foot after Injuries and Operations at the Tarsus.—The engraving which is presented will give an accurate idea of an ingenious combination of plaster and metal which has been brought into use at this institution by Dr. N. G. McMaster for the treatment of cases in which it is desired to keep the heel or instep uncovered, and at the same time support the anterior portion of the foot so as not to allow of deformity.

The apparatus is made by riveting a piece of hoop-iron to two pieces of perforated zinc, and incorporating them in the bandage in the following manner: The plaster-bandage is carried down along the leg and foot, and then, after bending the hoop-iron to the proper angle, the apparatus is laid on the plaster, and a sufficient number of layers of plaster-bandage is carried over the zinc, so as to make it perfectly firm. The zinc should be thin enough to be perfectly flexible, in order to mould it to the leg above and the foot below. The perforations are made by punching the zinc an equal number of times on each side, so as to make it rough and bind firmly with the plaster-of-Paris bandage. The dotted lines in the cut show the position of the zinc when concealed by the plaster-dressing. Without this appliance it would be impossible to treat cases where it might be necessary to keep exposed both heel and instep, without placing the extremity in a fracture-box filled with bran or oakum.

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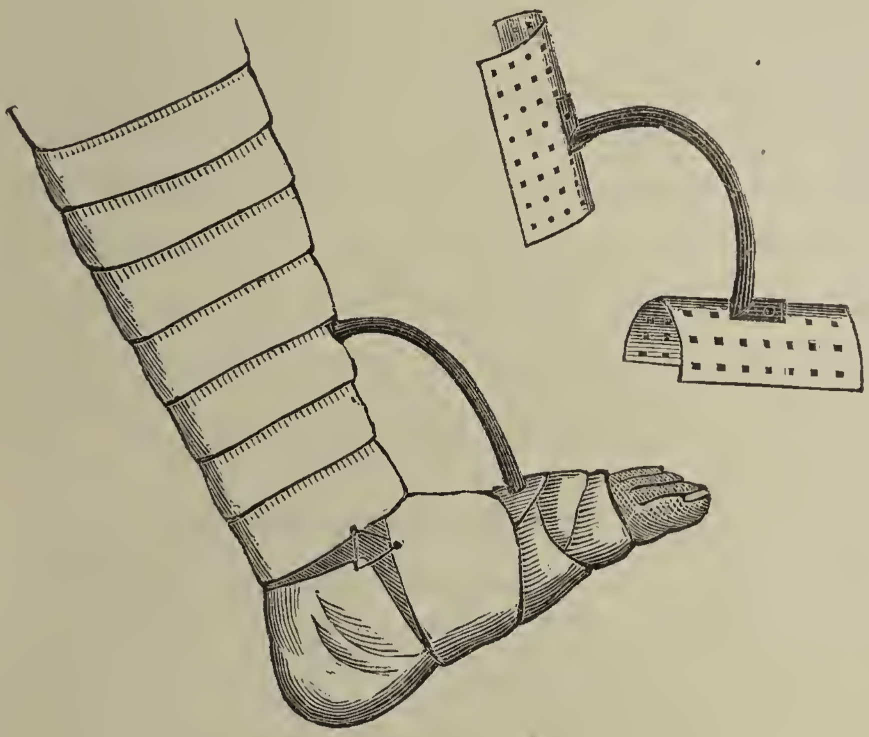
[1] "Archiv für Anatomie und Physiologie," 1867, pp. 52–59.

[2] *Op. cit.*, 1871, p. 31.



Compound Comminuted Fracture of Os Calcis.—A boy, aged thirteen, had his foot so thoroughly contused as to present, on admission to hospital, a compound fracture of the os calcis, in which the bone was broken into three or four pieces. The posterior and superior fragment was so injured, that it was deemed necessary to remove it. Before removing it, however, the insertion of the tendo Achillis was separated from it as thoroughly as possible. The leg was then placed in the dressing shown in the engraving, but the hoop-iron was so bent as to flex the heel, and in this manner allow the tendo Achillis to unite as far down as possible. After ten weeks the limb was taken down, and the tendo Achillis was found to be strongly adherent; but, after a period of four weeks, it was found that the foot showed a tendency to fall to one side. It was then put up in the position shown in the engraving, and at the present time the boy runs around the hospital without any discomfort.

Necrosis of the Tarsus.—A man was admitted to the hospital with extensive necrosis of the tarsus. It was decided to remove the diseased bones, and for this purpose an extensive incision had to be made over the instep. After the operation the apparatus was put on, and proved to be a valuable means of support. It was impossible to have a bridge of plaster, as in the case shown in the engraving; but, instead, the plaster was placed on the leg, and on the anterior part of the foot. The hoop-iron kept the foot in the proper position, and left the instep free for any dressings that might be required to be made.

Emphysema of the Skin following Tapping of the Chest.—A woman, aged twenty, had an effusion of fluid into the pleura, and it was decided to remove it. During the operation she accidentally fell down on the bed, and, happening at the same time to make an inspiration, considerable air was drawn into the chest. Shortly afterward the patient noticed a swelling in the region of the puncture, and, on examination, the skin on that side was found to be in an emphysematous state. Compression was immediately applied over the puncture and around the chest, which prevented the escape of any additional air.

Following the operation, the succussion-sound was heard; but in a few days this disappeared, from the absorption of the air. It was supposed that empyema would in all probability result from the large amount of air, relatively speaking, that entered. This supposition was, however, not correct, as the serum did not become subsequently purulent.

Wound of Scalp, with Loss of a Part of the Periosteum; no Exfoliation.—A man was taken into hospital with the results of an improperly-treated wound of the scalp. Originally the wound had extended in a semicircle, beginning at the parietal protuberance, and terminating behind the ear, the convexity of the wound looking forward. From neglect in attending to it, the flap hung down, and exposed part of the periosteum, which sloughed off, leaving the bone bare. The treatment of the case consisted in separating the attachments and bringing the flap upward and forward, so as to cover, as near as possible, the denuded surface. Catgut ligatures were used to secure the flap in position; but they did not prove as serviceable as silk. The peculiarity of the case was that, instead of exfoliating, as was expected, granulation sprang up over the naked bone, and no necrosis took place. The case has resulted in absolutely no deformity, with the exception of a broad line of cicatrization around the edge of the flap.

BELLEVUE HOSPITAL.

Dislocation of the Thumb at the Phalango-Metacarpal Articulation; Failure at Reduction.—A young man entered hospital suffering from a dislocation backward of the thumb at the phalango-metacarpal articulation. Reduction was endeavored to be effected by means of extension, and by bending the dislocated thumb still farther backward, but without effect. The patient, at the suggestion of his friends, left the hospital a few hours after entering, and no further procedure could be had recourse to.

Several years ago a somewhat similar case fell under our observation in a hospital service. The patient was an old woman, who, in falling, endeavored to support herself by her outstretched hand. Several hours afterward she was taken into hospital, and an attempt made at reduction by the house-surgeon. This was fruitless, as in the case just reported, and, on the following day, a consultation was called. After anæsthetizing the patient, prolonged attempts were made by different surgeons, but without success. It was then decided to cut the tendons of the flexor brevis pollicis, which was done, but no benefit followed the operation. After this, all tendons that could possibly prevent reduction were cut, but the dislocation was found impossible to reduce.

Compound Fracture of Olecranon.—A patient received a severe wound in the back portion of the elbow, which was found to have fractured the olecranon process and opened into the elbow-joint. The arm was placed in hot water, and did well so far as to result in a suppurating elbow-joint. After suppuration ceased, the arm was found to be partly anchylosed. He then left hospital for two months, and at the end of that time was again seen, when the motions of the joints were perfectly free. The patient was by occupation a coal-heaver, and it is fair to assume that the active muscular exercise was an important element in developing the motions of the joint.

Synovitis of Knee-Joint; Treatment.—A patient entered hospital suffering from synovitis of the knee-joint, with effusion. A plaster-of-Paris bandage was applied, and a fenestra over the anterior surface of the knee cut out. A solution of bromine and iodine was applied to the knee, followed, after a time, by strapping. The case has progressed satisfactorily, though it is of a class that does not as a rule furnish ready or agreeable results to either patient or surgeon.

Penetrating Wound of Knee-Joint, resulting eventually in Suppurative Arthritis.—A boy, in dressing sheep in one of the slaughter-houses of the city, dropped a knife, which penetrated the knee-joint. He was taken to hospital, and a small wound was detected in the neighborhood of the joint. The limb was immediately put up in plaster of Paris, in order to allow of absolute rest to the joint. The wound discharged slightly for a week or ten days, but no further trouble was complained of. At the expiration of that time the discharge became offensive, while simultaneously the joint enlarged in size and became very painful. Twenty-two days after the injury the joint was opened by an incision, and a pint of pus evacuated. The state of the patient's health became very precarious, and forbade an amputation. Eventually a change took place for the better, and has continued up to the present time. When suppurative synovitis developed, the plaster was removed, and a gutter-splint applied; but, on the change for the better continuing, the plaster was again put on. It is hoped, from the present condition, that anchylosis will soon be pretty firmly established.

Gunshot-Wound of Rectum, causing Vesico-Rectal Fistula.—A boy received the contents of a pistol, loaded with gravel, in the perinæum. When he was seen, an opening large enough to admit the whole of the hand was found in the region of the anus. On examining the rectum it was found that the charge of the pistol passed through the rectum into the bladder, causing obliteration of the inner opening of the urethra. Since the injury the external wound has closed to a considerable extent, but it will be necessary to have an operation performed for closure of the fistula, and the establishment of a channel for the escape of the urine.

Correspondence.

NOTES FROM THE ORIENT.

By BENJAMIN HOWARD, M. D.

EGYPT AS A HEALTH-RESORT—WARNING TO INVALIDS—NATIVE DOCTORS AND NATIVE DISEASES.

Cairo, *June*, 1876.

Editor New York Medical Journal:

It is desirable that physicians sending patients to Egypt should be aware of certain facts not likely to be found in guide-books, but from ignorance of which American and English invalids are often exposed to unnecessary discomfort, perplexity, and expense. In the first place, the nights on the Nile during December, January, and February, are likely to be cold—sometimes by contrast very cold, when the winter wraps left behind in Italy are in great demand. A stout flannel abdominal binder is invaluable; more than anything else will it be likely to prevent the diarrhœa and dysentery of new-comers, and it is the most comfortable appliance during the jolting of camel-riding.

Amid the ungovernable Arabs an invalid cannot possibly make his way alone. Between Cairo and Central Africa there is not one resident educated physician. If there be any prospect that the patient may die in Egypt, he ought not to be sent there at all. In addition to the general difficulties which might be anticipated in case of death, a special order has recently been issued, that, in case of non-burial within twenty-four hours, the body be embalmed, and that this must be done in the presence of a government officer, etc.; and, in the removal of a corpse, the red-tapeism of incompetency ensnares one at every step.

The latest information for the ensuing season is, that steamers will leave Cairo every two weeks for the first Cataract. For those who are willing to forego the poetry of a *dahabeah*, these steamers not only afford the luxuries of a European hotel, but also have always on board a native army-surgeon who can probably speak a little of one or two modern languages. In case of illness, or for invalids who prefer to be under medical supervision in Egypt, the most important information is the establishment of a sanitarium in Cairo. This is in one of the newest and finest buildings, and in the best part of the city. Dr. Grant, of Scotland, who has done the English-speaking practice for about ten years, is at the head of it, and here invalids can have, in reality, an English-American home (Mrs. Grant being an American), and the best medical attendance at a fixed price.

Above Cairo there is no such thing as a lodging; but an hotel is contemplated at Luxor, the best point in Upper Egypt. It is an Egyptian scheme, and so will be accomplished when Allah wills it.

To the invalid, the leading features of a winter on the Nile are: a daily uniform temperature; a bright sun; a spotless sky—and these assured and perpetual. In the Nile boat-life, the invalid enters into a new world, to which nothing at home or in Europe bears any analogy. In the river—in the landscape—in every face one meets—the one impression is that of repose. The irritation or the *ennui* which might be apprehended is allayed by the constant surprises this strange country affords, and, before one is aware, anxieties fade into a general acquiescence, until that repose which seemed at first so strange in the natives becomes habitual to himself. For chronic pulmonary affections, therefore, for chronic rheumatism, for incipient Bright's disease, and for nervous exhaustion from any cause, I believe the Nile-trip stands alone and incomparable.

The diseases of Europeans long resident in Egypt are generally hepatic, or have hepatic complications. In cases of hepatic abscess which I saw, they were opened as soon as fluctuation was made out. Of the diseases of the Arabs it is impossible to give statistics; one can only speak from actual observation. For example, in Cairo, while there are four hundred mosques, there is not one public hospital; nor do I know of one in all Egypt, except the few military hospitals.

Phthisis in Egypt is not, as many suppose, unknown. In the Military Hospital, at Cairo, I saw a ward occupied by patients exclusively of this class; they were Arab soldiers who, in most instances, had recently been through exhaustive campaigns in the direction of Abyssinia.

Yusam, or Leprosy; Elephantiasis Arabum; Pachydermata.—Although the victims of diseases of this class are driven to highway-begging for subsistence, the number seen is much less than one would expect to find in its native home. More cases are seen in Palestine than in either Egypt, Arabia, or Syria; but it is generally lepra Græcorum. There is no provision, but only prohibition, for these unfortunate creatures, and they always go untreated. There is nothing in this region, in the way of elephantiasis Arabum or pachydermata, to compare, either in numbers or intensity, with what I have seen in the West Indies, especially in the lazaretto in Havana.

The *Bilharzia hœmatobia*, to which Griezenger attributes the alleged frequency of vesical calculi in Egypt, I could hear little of; nor did I find his experience corroborated by the present experience of any European practitioner.

Syphilis.—This disease, as might be supposed, where there are no restraints, either moral, social, or civil, runs wild in all its forms. The only instance in which I could hear of any treatment was in Nubia. Here, especially in the interior, the natives treat themselves by what is essentially an approach to the Zittman method. In cases where the secondary symptoms are alarming, the victim drinks freely of a native spirituous liquor made from the sugar-cane or palm, and sits upon the hot sand in the sun, the trunk covered by a thick garment. In this way a profuse sweating process is carried on day after day, for from a few weeks to two or three years. An intelligent Italian gentleman who had seen a good deal of Nubian life, and for many years had been in the habit of giving medicines to the natives, said that he had seen cases treated in this way as long as three years continuously, and in these instances subsequent observation taught him to believe the cure was radical.

Malarial Fevers.—Here are the annual universal inundation, the general irrigation throughout the year, the blazing sun, the porous soil, with clay in some cases beneath. Malarial fevers, however, do not abound. Occasionally, too, there are, in the region of the Delta, dense fog and mist; I once stood within gunshot of the Great Pyramid, by daylight, when no trace of it was visible, so dense was the fog. These fevers in their various forms do occur, but the cases are scattered, and such as I have seen have been light, occurred in Upper Egypt, and yielded readily to quinine.

Typhus and Typhoid Fevers.—Again, in all the cities of Egypt, scarcely excepting the native quarters in Alexandria and Cairo, there exists a degree of filth which, unseen, is inconceivable, the same as in so many cities of Asia. As for overcrowding, the families sleep together like sheep; for ventilation there is the door, and that so low one must stoop to enter. Privies are unknown; any court-yard, alley, or street, is used for this purpose, so that walking is difficult. In every city up the Nile the odor of human ordure is predominant, and sometimes intolerable. Further, the streets are only a few feet wide, and paving is unknown. Typhus and typhoid fever, however, is an unusual occurrence, and Dr. Grant informs me that, during ten years' practice in Egypt, among natives as well as Europeans, he has never known anything like a fever epidemic. An approach toward an explanation may perhaps be found in—1. The avidity of the air for moisture, drying taking the place of putrescence and decay. 2. The constant currents always existing there in the higher strata, to which exhalations are quickly carried. These reasons will also help to explain another fact, as told to me by Prof. G. Post, son of the venerable Prof. A. C. Post, of New York. He says that in Syria wounds always behave well, and that neither in the hospital of which he has charge, nor elsewhere in Syria, has he ever seen a case of pyæmia. In this connection, however, one should take into account the religious abstinence of the Mohammedans from intoxicating drinks.

Ophthalmia is the conspicuous disease of Egypt. In five *cafés* I counted ninety-four Arabs; of these, three were quite blind, fifteen had more or less onyx in one or both eyes, and there were but forty in whom a passing glance did not discover unsoundness. A commission has lately been sent to Egypt by the French Government to report upon ophthalmia. Without wishing to anticipate the report, I think this commission can scarcely fail to find that Egyptian ophthalmia means Egyptian dirt. The extreme filthiness is beyond the imagination of a European. It may be said that the Arab woman never washes; she is very apt to have blennorrhœa. According to a general superstition, the washing of a child's face is carefully avoided; here, at the start, is sufficient reason why ophthalmia neonatorum should be rather the rule than the exception. One constantly sees children lying in the sun, wearing large blue-black goggles. On a nearer approach, these goggles are found to be dense mounds of flies, the hot pus trickling from beneath. This is not from neglect, but from a religious principle, according to which nothing must be done to a child's face which could beautify it, lest some one having "the evil-eye" should look upon it, and blight or curse the child. As regards dissemination of the disease, in an average Arab family a towel is unknown, the single loose garment serving for all purposes of wiping. All the members of a family sleep miscellaneously, huddled together like sheep. Arabs are always squatting in groups, and the flies, the plague of which still continues there, visit the eyes of the group miscellaneously—dust, sand, the glaring light, and blazing sun, always adding to previous causes of irritation. The causes last mentioned do of course tend to produce more or less conjunctivitis in adults, and in many such cases have I treated the adult natives, the disease always yielding as promptly to a solution of alum or sulphate of zinc as would an ordinary conjunctivitis in New York or elsewhere. I certainly have seen no reason for believing in anything essentially distinctive or Egyptian in Egyptian ophthalmia, except Egyptian filth. A certain amount of the blindness of one eye, it may be added, is due to a favorite practice of mutilation, by which mothers provide against the seizure of their sons for service in the army. Formerly the cutting off the right forefinger was principally in vogue, but, since the khédive had regiments of cavalry formed exclusively of such mutilated men, the blinding of one eye has been substituted.

The *plague* has excited some alarm lest it might approach from Bagdad ; but, whether or not the epidemic there was the true plague as alleged, apprehension diminished as the season advanced, for, as is well known to old residents in Egypt, very hot weather is as fatal to the plague as very cold weather.

Of the devotion of the ancient Egyptians to the art of medicine a fine monument still remains. At Philæ, just above the first Cataract, is a temple to Æsculapius, the oldest probably in the world. It is nearly filled with sand and *débris,* but the capitals and such carvings as are uncovered are still in good preservation.

No trace of the former greatness of the Egyptians in the art of medicine remains, however, in their present practice. Every town has its *hakim,* or doctor, who receives great respect and little pay ; but his greatest skill is in maintaining a wonderful air of mystery. The best remedy in their list of therapeutics is the actual cautery. Throughout all Arab-speaking countries counter-irritation by scarification is so common that it is difficult to find an Arab without his scars, especially on the back of his neck ; the only objectionable feature is that it is made to answer for all diseases alike, especially in children. For sunstroke the remedy is beating the breast and shoulders, pouring salt-water into each ear alternately, and shaking by the ears to make it run down ! For a scorpion-bite, scorpion-oil is used. There are no bone-setters, but an old *hakim,* at Luxor, told me that in fractures he tied cloths around the seat of pain, and that the bones generally united. For the rest, the treatment of disease is principally a matter of herbs, incantation, and mystery.

Signs of progress are, however, making their appearance. A military medical college is connected with the Military Hospital at Cairo, and in connection with the Medical Missionary College at Beyrout, Syria, the first translation into Arabic of a medical book has been made by Prof. G. Post, and is published by the American Missionary press in operation there.

Proceedings of Societies.

BOSTON SOCIETY OF MEDICAL SCIENCES.

Report of Proceedings for May, 1876.

James J. Putnam, M. D., *Secretary.*

Tuesday, May 30th.—Dr. J. H. Denny (present by invitation) showed a number of *sections of the human brain*, thin enough to bear examination with quite high powers, and yet so large that they represented an entire hemisphere. The method of preparing them, first applied in Munich, consisted in cutting the brain, imbedded in a gigantic microtome beneath the surface of water, by means of a knife two feet in length. The fresh tissues are first treated with alcohol and iodine, and then allowed to harden for two years in chromic acid.

One thousand or fifteen hundred such sections as those shown would make up an entire brain.

Dr. Fitz made a communication, illustrated by drawings, upon the anatomy of a parasite found some years ago by Dr. J. B. S. Jackson, of Boston, in the gall-ducts of an East Indian elephant, and named by Cobbold the *Fasciola Jacksoni.*[1]

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[1] The full communication will be found in the New York Medical Journal for November, 1876.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 27, 1876.

DR. C. K. BRIDDON, President.

Rupture of the Uterus.—Dr. GEORGE F. SHRADY read, on behalf of a candidate, the following history, and presented a specimen of ruptured uterus :

The patient, aged thirty-five, was seen on September 7th, at 6 P. M., and at that time was in a state of syncope. Shortly afterward she revived slightly, and said that she was the mother of three living children. Six weeks ago she was taken with hæmorrhage, which ceased after taking some ergot, but returned from time to time.

On making a vaginal examination, the candidate found the os uteri dilated to the extent of an inch and a half. The membranes were not ruptured, and the head was presenting. The pains were feeble, but seemed localized on the left side of the umbilicus. The pulse was weak, and the countenance pallid.

On examining the abdomen, there were evidences of fluid in the peritoneal cavity.

Six hours afterward vomiting came on, and, following a paroxysm, there was a burning sensation, accompanied by strange movements in the abdominal cavity. The patient immediately sank into a condition of collapse, and died three hours subsequent to the attack of vomiting.

Post-mortem.—On making a section through the abdominal wall, a large quantity of dark-colored serum was found in the abdominal cavity, in which was found floating the fœtus, with the bag of waters not ruptured. The uterus was lacerated by a rupture extending from near the left cornu along the left and posterior side of the body, as far down as the cervix. The divided margins were very irregular, and seemed to be thinner than the rest of the uterine tissue.

The fœtus had reached seven and a half months of intrauterine life.

Dry Caries of the Knee-Joint ; Exsection.—Dr. ERSKINE MA-

SON presented specimens of the knee-joint which he had removed from a patient at Roosevelt Hospital. The patient was nineteen years of age, and married. She said that, when she was seven years of age, she had an attack of sickness, lasting for ten months. After recovering, her knee remained stiff, but she was able to walk about. Two months before admission to hospital she received an injury in the affected joint, which caused much pain, and necessitated the use of crutches. She was admitted to hospital April 10, 1876, and found to be in the second month of pregnancy.

On examining the limb, it was found atrophied. The tibia was subluxated backward and outward. It was decided to perform exsection, so as to allow the patient the possibility of a useful limb. On April 14th an interior oval incision was made, and the joint exposed. The portions of bones entering into the formation of the joint exhibited dry caries. After removing the diseased portion of the bones, the ends were brought together by means of silver-plated copper wire, and the limb placed in a plaster-of-Paris splint. Six weeks after the operation the wires were removed, and on July 3d the splint was taken off, and the patient allowed to walk about. Dr. Mason said the above case was the second reported in which the operation was performed during utero-gestation.

Exsection of Knee.—Dr. MASON presented portions of bone which he had removed from the knee-joint of a woman, twenty-two years of age. The patient had chronic synovitis of nine months' standing. The operation was similar to the preceding one, and was performed on February 16th. On April 18th she was able to walk on crutches, and on April 28th left the hospital. The shortening of the affected limb was one and a fourth inch.

Fatty Tumor.—Dr. FRANKEL presented a fatty tumor, which he removed from a child two and a half years of age. The tumor was situated beneath the pectoralis major, in the outer third of the infra-clavicular region. When the child was four months old, the tumor was of about the size of a lemon, and at the time of removal had increased till it was about one-third larger. No special difficulty was encountered in its removal.

Excision of the Wrist.—Dr. Briddon gave something of the after-history of a patient upon whom he operated for disease of the carpal bones. The patient did well after excision was performed, and at the time of report, four months after the operation, there was ability to pronate, supinate, flex, and extend. The deformity was slight; on measurement, it was found that there was shortening of one and a fourth inch. Several specimens of handwriting were shown, proving that, as regarded the holding of the pen, no special disability existed. A plaster-cast of the hand and arm was also exhibited to members of the society.

Development of Cancer-Elements.—Dr. C. Heitzman presented microscopic specimens of cancerous tumor of mammary gland, and of the skin from the parotid region, to show the history of the development of cancer-elements. The subject, Dr. Heitzman stated, had been studied in his laboratory by Dr. E. N. Hober, of this city, and the results published.

Virchow held that the epithelial elements characteristic of cancer were formed by the development of such elements from the cells of connective tissue. Recent investigators, on the other hand, such as Thiersch, Waldeyer, and others, thought that the epithelial cells were the offspring of former epithelium.

Dr. Heitzman showed that the first-formed elements in the embryo were all alike, and the differentiation into peculiar tissues took place afterward, from these indifferent elements, just as in the inflammatory process. Even in the growth of tumors there was first noticed an indifferent tissue, which yielded as a product different forms of connective and epithelial tissues. In cancerous tumors it was frequently noticed that there were alveoli closed in on all sides with connective tissue, and filled with epithelial cells, yet no connection could be traced between these newly-formed cells and the glandular epithelium. The theory of immigration could not explain the gathering of cancerous elements, inasmuch as perfectly-formed epithelium does not migrate — migration being a property possessed only by indifferent corpuscles. Again, there may be seen cancerous groups of epithelial elements separated from each other by elastic fibres which, in normal condition, exist only in connective tissue. This, Dr. Heitzman thought, was a striking proof of the truth of the view that former connective tissue changed into cancerous tissue, and that the proposition laid down by Virchow was only partly true, it being necessary to add that not only the cells of connective tissue, but the whole amount of living substance within the basis substance, was capable of production, and the result of this production could under certain circumstances be the cancer-elements.

Excision of Elbow-Joint.—Dr. Briddon presented specimens which he had removed from a woman twenty-six years of age. She said that the first serious trouble with the joint occurred about eighteen months ago, when she was attacked with a severe pain in the elbow, which continued, and resulted in an abscess. During the past year she had been unable to move the joint. On admission, August 26, 1876, the elbow was swollen and flexed at less than a right angle. The anchylosis was of the fibrous form. The operation of excision was the one ordinarily practised by making a straight incision on the posterior surface of the arm. The lower surface of the humerus was removed as well as the ulna, as far down as the condyloid process, and also a corresponding amount of the radius.

Dr. Satterthwaite said that he had seen the patient at Demilt Dispensary. She had been under observation for over two years. It was suspected that she had syphilis. A tumor formed in the region of the joint, and eventually the joint itself became involved. When she was next seen a sinus existed, which extended down to carious bone. A portion of the carious condyle was removed. At that time there was no anchylosis.

Dr. Mason referred to the truth of a remark that had been made, to the effect that a probe would not always detect dead bone, from the fact that it was liable to be covered with newly-formed connective tissue.

Passage of Intestinal Worm through Sinus.—Dr. Gibney recited a case in which there was a sinus at the sacro-iliac junction, and from which at different times intestinal worms escaped. Fecal matter would be detected for a day or two after the passage of the worms.

Stated Meeting, October 11, 1876.

Dr. C. K. Briddon, President.

Hip-Joint Disease.—Dr. Sayre presented two specimens of bone which he removed from patients.

The first case was a boy six or seven years of age, who had been an invalid for four years. The leg was bent at an angle of forty-five degrees. Anchylosis was pretty firmly established. The operation of excision of the joint was performed, and at the operation anæsthesia was induced by fifteen drops of chloroform. The upper extremity of the femur was found to have passed through the acetabulum. The operation was unattended by any untoward event, and was followed by speedy recovery.

The second case was a child four years old. Three and a half years ago it had a fall, and from that time dated the disease. In June, 1876, an abscess was noticed on the side of the thigh. The limb was adducted.

Dr. Sayre said that the operation was attended with more difficulty than any he had performed for a long time. The femur had penetrated the acetabulum, and, after section of the necrosed portion, much difficulty was found in removing the fragment from the acetabulum, and was only done by strong traction exerted by means of a bull-dog forceps. It was found that the cause of obstruction was due to a ring of involucrum which encircled the bone, and which was torn off by the efforts at traction. The operation lasted an hour, and after it was over the patient was sent home. Dr. Sayre said that the two cases made respectively the sixty-third and sixty-fourth cases upon which he had performed the operation.

Dr. Briddon was of the opinion that an early operation was important in cutting short the course of the disease, and in yielding a better result than would occur if the case were left alone.

Dr. Finnel asked Dr. Sayre if he did not think that at times an operation was performed before it was necessary. This was brought to his mind by the recollection of specimens presented before the Society, in which there seemed only to be an abrasion of the articular surface. Dr. Sayre said that in the first stages of the disease it was judicious to treat the case by the use of appropriate instruments, and it was only when the disease was so far advanced as to cause destruction of the joint that an operation was indicated. Reference was made to a case in which tenotomy was practised, and the limb brought into the normal position and the proper instruments applied. In that case a very good result was obtained.

Dr. Peters referred to the case of a patient who was under the care of a surgeon of ability, but one that was opposed to the operation. After six or seven years fragments of bone came away from the diseased hip-joint, but, in the opinion of Dr. Peters, years of suffering might have been prevented by an operation of excision, while in all probability a much better joint would have resulted.

Tape-Worm.—Dr. Beverly Robinson presented a specimen of tape-worm which had been passed by a woman thirty-five years of age. There was no special history connected with the case. The appetite was at times voracious, and at other times the reverse. He had given oil of male-fern, and a number of feet of the worm had passed, but the head was not detected. Dr. Robinson said the patient was a cook, and he had found in looking the matter over that cooks were reported as being very susceptible to tape-worm. Some discussion took place on the subject of treatment.

Dr. Peters said that he had given with good results doses of the powder of male-fern.

Dr. Briddon had found, of the different remedies proposed for the disease, that oil of fern produced the best results. He had used the fluid extract, but had found it to be inert. The method of administration was to give a cathartic the evening before, and follow the remedy in a few hours by another cathartic.

Aneurism of Aorta opening into the Trachea.—Dr. R. O. Mason presented a specimen of aneurism of the arch of the aorta which burst into the trachea. The patient was a woman aged fifty. She was first seen August 31, 1876, when she complained of pain in the scapular region, accompanied by dyspnœa and cough. There were also pain after eating, and stridulous voice-sounds. On examining the chest, dullness could be detected on the left side, but no aneurismal bruit could be heard. Death took place by rupture into the trachea, characterized by hæmorrhage from the nose and mouth. At the autopsy an opening about an inch in diameter was found on the posterior surface of the trachea, which led into the aneurismal sac. There was also a certain amount of blood on the left pleura. The right pleura was adherent. The aneurism was situated on the arch of the aorta, but an examination of the root of the aorta showed a commencing aneurism at that part.

Dr. BRIDDON referred to a case in which aneurism of the innominate artery existed, and in which no sign of aneurismal bruit could be detected. Shortly before death occlusion of neighboring vessels took place. In that case the voice was affected.

Dr. ROBINSON thought that much light could be often thrown upon a case by a laryngoscopic examination.

Sarcoma of Jaw.—Dr. POST presented a tumor which he had removed from the maxillary region in front of the right ear. It involved the lobule of the ear, and extended over the face. It was removed from a woman sixty-six years of age. On examining the growth, it was found to be slightly movable, circular in shape, and measured about three inches in diameter. On dissecting it out, it was found that it dipped down posterior to the ramus of the jaw, and rested upon the external carotid artery. The flap of skin after its removal was sufficiently large to cover that part of the ear occupied by the tumor. The tumor had its origin in the skin near the ear. During the operation a portion of the masseter muscle was removed also the facial nerve. Dr. Post thought that the tumor was an epithelioma.

Dr. HEITZMAN was of the opinion that it was a sarcoma, and judged so from the fact that the skin was not ulcerated.

Dr. Post thought that many cases of epithelioma might last for years without causing ulceration of the skin. The specimen was referred to the Microscopical Committee.

Rupture of the Uterus.—Dr. FINNEL presented a specimen of rupture of the uterus which had been made the subject of a coroner's investigation. The woman had been in labor twenty-four hours, and at the end of that time the os was slightly dilated. No advance was made in the labor, but it was found that shortly afterward one of the hands of the child was protruding through the os. The attending physician then practised version, and delivered the patient with a great deal of difficulty. In an hour afterward he was sent for, and found that the patient had died of *post-partum* hæmorrhage. The friends of the patient charged the physician with having caused the death of both mother and child, and placed the matter in the hands of the coroner for investigation. At the autopsy a rupture was found in the lower part of the body of the uterus, measuring two and a half inches in length. The uterus presented also attached membranes on its inner surface. At the inquest the testimony went to show that an attempt was made to deliver the child by making traction on the hand by means of a bandage secured to it, as well as by traction on the feet. If such were true, it would show incompetent knowledge on the part of the attendant, but it was fair to assume that any number of lay witnesses could give no evidence of the character of the manipulations practised by the accoucheur.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 25, 1876.

DR. THOMAS ADDIS EMMET, Vice-President, in the chair.

The Induction of Premature Labor in Contracted Pelves; its Necessity and Safety in Cases ascertained prior to Full Term.—Previous to the reading of the paper of the evening, nominations were made for the officers for the ensuing year.

Dr. S. A. RABORG, after reviewing the different conditions in which premature labor was indicated, drew special attention to three cases which had come under his observation, and in which labor had been induced by a current of water carried against the cervix. The different methods of vaginal and uterine injection which have been advised were referred to before proceeding to the history of his own cases. The first case was twenty-five years of age. Before coming under the observation of Dr. Raborg, she had several abortions and labors, in which delivery was accomplished by means of version and craniotomy. Her pelvis measured two and a half inches in the antero-posterior diameter, and about the same length in the transverse and oblique. After consultation it was deemed expedient to bring on labor at the eighth month. For this purpose an interrupted current of water was carried against the posterior wall of the cervix by means of a Davidson's syringe. Within twenty-four hours pains were induced, and at the end of five days and twelve hours the mother was delivered of a child without the aid of mechanical interference.

In a succeeding pregnancy the continuous current of water was employed by means of an elevated reservoir of water. Labor was accomplished in nine days and twenty-three hours.

In a third case the intermittent current was again employed, and after five days and eleven hours labor was completed. In reviewing the two cases, Dr. Raborg said that he felt that the current of water from the syringe was more satisfactory than the continuous current.

Reference was made to the method suggested by Dr. T. G. Thomas, in which the nozzle of a Davidson's syringe was introduced within the cervix uteri, and, after compressing the cervix, the current of water was carried against the membranes in such a manner as to partly detach them. By Dr. Thomas's method labor has frequently been finished within twenty-four hours.

Dr. Isaac E. Taylor did not approve of the vaginal injections of water, inasmuch as he had noticed that not only were they unreliable, but in some cases seemed even to retard labor. In bringing on labor he relied on the use of Barnes's dilators as the most efficient means of expanding the cervix uteri.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 5, 1876.

DR. S. S. PURPLE, President.

The Malady of Innutrition.—Dr. BAYLIS read a paper of considerable interest at the present time, on the poverty and destitution which are so frequent, and their bearing on present and future disease. During the course of his paper he drew attention to the fact that nourishment of a generous quality and quantity was an important agent in fortifying the system, and not only warding off and lessening the ravages of disease, but also conducing to vigor and longevity in the nation. He was of the opinion that the present crisis, if it remained unchanged for but a short period, would develop a species of pauperism and mendicancy similar to that which was of so common occurrence on the Continent. For the relief of the immediate wants of people suffering from relative starvation he advised the establishment of centres of food-supply; the hearty support of all charities of a culinary character; and especially the urging of all who are able, to relieve the necessities of those who fall within their immediate circle.

Dr. G. M. SMITH said that, when he heard the important paper of Dr. Baylis, it occurred to him, as it often had before, that innutrition was a vice of the American people induced by the habitual hurry which was so common throughout the country, and was independent, to a certain extent, of *relative* or *absolute* want.

Dr. E. R. PEASLEE said that the poverty which was so prevalent, and which seemed to be on the increase, would, if it continued, have an adverse influence on the coming generation.

Dr. HANKS gave his experience in the tenement districts. He said he had found that a very common article of food was *bread and tea*. Although many other things more nutritious and equally cheap could be substituted, the prevailing taste was not in favor of them.

Dr. Leaming spoke about the subject of nutrition, and the difficulty of getting at the precise facts. He said that quite an excitement took place some eighteen or twenty years ago on the subject of swill-milk. At that time there was quite an amount of infantile mortality, and the inference was quickly drawn that between the two there was the relation of cause and effect. This inference was so settled that the municipal authorities sent to the Academy of Medicine for an opinion on the subject. Dr. Leaming said that at that time he was connected with a dispensary which included the quarter occupied by the swill-milk tables, and found that, of all the children who died, none of them had taken swill-milk, nor indeed milk of any other kind.

Bibliographical and Literary Notes.

Art. I.—*A Treatise on the Science and Practice of Midwifery.* By W. S. Playfair, M. D., F. R. C. P., etc. 8vo, pp. 576. Philadelphia: Henry C. Lea, 1876.

In our somewhat hasty perusal of Dr. Playfair's book we are disposed to look upon it with considerable favor, at least for certain purposes. Although it is a condensed treatise, it is quite comprehensive in character, and consequently pretty well adapted for students at lectures, and for hasty reference by busy practitioners of medicine who do not care to consult the more extended treatises.

While in the main we like the manner in which the facts are treated and the rules given for procedures, the author has some views from which we are inclined to dissent. He still favors the use of the abdominal bandage after contraction of the uterus is assured, following labor, the value of which we are at some loss to determine. Under the title "Puerperal Septicæmia" is included the description, not only of septicæmia proper, but also of pyæmia and puerperal fever. On page 516 it is stated:

"The whole tendency of recent investigation is daily rendering it more and more certain that obstetricians have been led into error by the special virulence and intensity of the disease (septicæmia), and that they have erroneously considered it to be something special to the puerperal state, instead of recognizing in it a form of septic disease practically identical with that which is familiar to surgeons under the name of pyæmia or septicæmia.

"If this view be correct, the term 'puerperal fever,' conveying the idea of a fever such as typhus or typhoid, must be acknowledged to be in itself misleading, and one that should be discarded, as only tending to confusion."

Without discussing this question at present further than to express our non-concurrence in the author's opinion, we may state that those of our readers who are familiar with Dr. Barker's views[1] may be led to believe that puerperal fever is "something special," and not at all identical with either of the above-named affections, nor with peritonitis or erysipelas.

In the obstetrical department proper the author seems more at home, and in most instances we shall not question the advice given. The book seems pretty well up with the times.

The binding, print, and general style of the volume, are excellent, and the woodcuts, 186 in number, and the two plates, are very good.

ART. II.—*A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra.* By SAMUEL D. GROSS, M. D., LL. D., D. C. L., Oxon., Professor of Surgery in the Jefferson Medical College of Philadelphia. Third edition, revised and edited by SAMUEL W. GROSS, A. M., M. D., Surgeon to the Philadelphia Hospital. Illustrated by 170 Engravings. Philadelphia: Henry C. Lea, 1876.

FOR many years the volume of Prof. Gross on diseases of the urinary organs, if not the only American work on this subject, certainly stood preëminent, and was regarded as the highest authority among American practitioners. This well-known work, however, has been out of print for several years, and in the mean time other excellent works have come forward to take its place, and become books of reference for the younger members of the profession.

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[1] "The Puerperal Diseases," by Fordyce Barker, M. D., 1874.

It is with pleasure we now again take up this old work in a decidedly new dress. Indeed, it must be regarded as a new book in very many of its parts. The anatomy of the urinary organs, and much that related to the prevalence of calculous affections in the United States, have, we think judiciously, been omitted from this edition. The chapters on the "Prostate Gland" and "Tumors of the Bladder" are entirely new, being from the pen of the editor of the present edition. Nor is this the only part that is new. The article on "Stricture" has been thoroughly revised; and, while the size of the present volume is diminutive in comparison to those that have preceded it, by judicious editing it has been rendered more valuable. The chapters on "Diseases of the Bladder," "Prostate Body," and "Lithotomy," are splendid specimens of descriptive writing, while the chapter on "Stricture" is one of the most concise and clear that we have ever read. As this work has been compiled so as to bring it fairly up to the knowledge which we at present possess, and the views of the more recent writers on this subject are freely quoted, we must withhold any lengthy criticism, as it would lead us into the discussion of statements not those of the editor. On reading over the article on "Stricture" we note some points that cannot be thus dismissed. For example, when referring to a case where the urethra is irritable, and is to be subjected to rupture or incision, we are told that stimulating injections will be beneficial. Our experience must cause us to dissent from this view; also that the operation of rupture of stricture with the instruments ordinarily in use "may be said to be absolutely free from danger, unless there is advanced renal disease." We cannot subscribe wholly to these views. The subject of lithotrity is perhaps too briefly treated, especially when we consider its great importance, and the exalted rank it must hold in our methods of dealing with stone.

In concluding this brief notice of the new edition, we must congratulate both the editor and the publisher on the excellent manner in which they have performed their work; for they certainly have rejuvenated an old book in such a manner as to render it a formidable rival to recent works on the same subject.

Art. III.—*Studies, chiefly Clinical, in the Non-emetic Use of Ipecacuanha. With a Contribution to the Therapeusis of Cholera.* By Alfred A. Woodhull, M. D., Assistant Surgeon United States Army. 12mo., pp. 155. Philadelphia: J. B. Lippincott & Co., 1876.

The author of this volume has sought by considerable perseverance to establish the number of complaints in which ipecacuanha may be employed with advantage. The vast number of conditions in which the drug may be employed suggests the importance of a thorough study of the work, with the detailed cases; but, while recommending the book to the profession, it may be well to caution the reader against attempting to make ipecacuanha a cure-all for every complaint likely to arise. We would suggest a trial of the use of one or two drop doses of the wine of ipecac every hour or two in vomiting of pregnancy, as recommended.

Reports on the Progress of Medicine.

Contributed by Drs. GEORGE R. CUTTER, EDWARD FRANKEL, SAMUEL B. WARD, E. H. BRADFORD, and W. T. BULL.

SURGERY.

Contribution to the Study of Spinal Apoplexy.—In *Virchow's Archiv*, vol. lxvi., Dr. E. Goltdammer publishes an article on this subject, of which the following is a *résumé*: It is still a matter of controversy whether hæmorrhage into the spinal cord is ever spontaneous, or whether the cases given out as such have not been only hæmorrhages into portions which were the seat of previous myelitis. Goltdammer communicates the following case, which he considers an undoubted one of primary spinal apoplexy: A girl, fifteen and three-quarters years of age, not yet menstruated, never before having had any derangement pointing to spinal disease, suddenly felt a severe pain in the back, between the shoulder-blades; this soon extended into the arms, and became a belt-like pain in the region of the stomach. Immediately after, the right lower extremity was paralyzed; half an hour later also the left; there was paraplegia and anæsthesia as high as the nipples; reflex movements were still intact; bladder paralyzed; no cerebral symptoms. Diagnosis of spinal apoplexy was made. The following detailed clinical history is that of disease at a later period, involving the whole breadth of the spinal cord: After six months, contractions and emaciation of the lower extremities set in, and the patient died one year later from decubitus. At the autopsy, the spinal marrow at the height of the second dorsal nerve was found indented and narrowed lengthwise for about four millimetres; on horizontal section at this point, the gray substance, the right white lateral column, and the adjoining portions of the anterior and posterior columns, appeared occupied by a hard, rust-colored deposit, interspersed by whitish-yellow irregular patches; the corresponding portion on the left side was soft and of a whitish-gray color. The deposit began at the lower portion of the cervical enlargement, extended downward, first increasing and then decreasing, and ended in a narrow, rust-colored stripe at the fifth dorsal nerve. Microscopic examination revealed an apoplectic deposit, a firm connective-tissue cicatrice, with complete destruction of the nervous elements in the gray and white substance of the uppermost dorsal marrow, which contained masses of hæmatoidin crystals and granular pigment. The complete transverse section of the marrow was disseminated throughout by granular cells, the ganglion-cells had partly disappeared, partly had undergone fatty degeneration, the nerve-fibres of the white column were destroyed, the vascular sheaths plugged up with granular cells. Above and below this portion there was secondary degeneration of the lateral columns, while the gray substance external to the deposit was normal. Spontaneous hæmorrhage can be diagnosticated less from the appearances presented at the autopsy, after the disease has lasted one year, than by the clinical history of the case. Meningeal apoplexy cannot be assumed, from the absence of radiating pains into the paralyzed limbs; nor a primary myelitis, from the absence of prodromata, the acute paralysis, and the whole course of the case. The author believes that the suppressed menstruation is a point in the etiology of spinal apoplexy. E. F.

A New Method of Performing Plastic Operations.—In the *Medical Times and Gazette* of June 3d, Dr. J. R. Wolfe states that it occurred to him many years ago that the rule originally laid down by Tagliacozzi, that a pedicle must always be retained in connection with a transplanted flap of skin in order to insure its vitality, was in many cases inapplicable. M. Riverdin's method of skin-grafting led him a step further, and he found that in supplying the loss of conjunctival tissue he could successfully shift portions of conjunctiva from one place to another without retaining any pedicle. He next found that portions of a rabbit's conjunctiva could be successfully transplanted to the human eye. Lastly he has become convinced that if we desire to transplant a portion of skin, it is of prime importance that the under surface of the graft should be completely freed of all areolar tissues, and properly fixed in its new position. He has found that the best way to accomplish the former object is, after dissecting off a flap of the desired size and shape, to lay the flap on the palmar surface of the left hand, and with a sharp knife shave off the fat and areolar tissue until a clean, white surface is exposed. In one case he has thus succeeded in securing the entire union of a flap two inches in length by nearly one in breadth. In another case in which a part of the flap was applied without being carefully cleared of connective tissue, while that precaution was taken with others, the latter united entirely, while the former retained its vitality only in part. S. B. W.

On Resection of the Entire Upper Jaw.—Braun (*Arch. für klin. Chir.*, xix., 4, 1876) reports two cases of this operation from the clinic of Prof. Simon. Both were followed by recovery, but death occurred after an interval of three and five months respectively, from recurrence of the disease, which was in one case epithelial cancer (originating in the skin over the nose), in the other small-celled sarcoma of the superior maxilla. Both patients developed great difficulty of vision—an occurrence not hitherto noted after this operation, and one suffered the loss of the left eye. The cause of these troubles the author finds in the contact of decomposing pus with the conjunctiva, and again in the injury done to the ophthalmic branch of the trigeminus by accumulation of pus within the skull (basilæ meningitis). Chemosis and injection of the lower half of the eye, which have been frequently observed, are due to interference with the circulation by the incisions, and to injury of the infra-orbital nerve, which, by depriving the lower lid of its sensation, allows the irritation of dust or other foreign matter.

All operations hitherto reported may be arranged in three classes: first, cases of resection of the *entire* upper jaw for new growths; second, cases of *partial* resection for new growths, including those in which the entire jaw has been removed in two operations; third, cases of necrosis in which *entire* or *partial* resection has been performed. In the first class there are eleven operations, four of which were fatal (death due to exhaustion in two, pyæmia in one, and apoplexy in one), while seven were followed by immediate recovery. Of the latter, however, *five patients died within three to twenty-two and a half months from recurrence of the disease.* In the second class are five cases, all of which recovered, but were not seen subsequently. Of the third class six cases recovered, and one died, this being the only one in which the *entire* jaw was removed. One patient died a year after operation, from necrosis of the face of the skull and abscess of the brain.

W. T. B.

Unilateral Luxation forward of the Right Inferior Articular Process of the Fifth Cervical Vertebra.—In the *Année Médicale*, Dr. Le Roy de Langevinière relates the case of a girl, fifteen years old, who sustained the following accidents: While dressing her hair, her head was slightly inclined to the right, her face turned somewhat to the left; in the left hand were held the gathered hairs of the back of the head, which she was endeavoring to disentangle by means of a pin held in the right hand. Meeting with resistance in the hair, she held the latter more firmly, and pulled the pin more forcibly through the hair. These two simultaneous acts caused a sudden movement of rotation, in which the face was quickly carried from right to left. Crepitation was felt at the base of the neck, accompanied by intense pain, and absolute impossibility to restore the head to its normal position. The author being called, the patient complained of a fixed pain, corresponding to the fifth cervical vertebra; the head was slightly flexed on the chest, inclined to the left, as also was the face. On examination of the nape of the neck, a depression was found corresponding to the inferior articular process of the fifth cervical vertebra, and below and inward from this depression there was another, formed by the spinous process of the vertebra beneath. In addition, the spinous processes above had deviated to the right. No exploration of the pharynx was made, the injury being too low to be thus perceived. There was no paralysis of either sensation or motion. It was concluded that there existed a unilateral luxation forward of the right inferior articular process of the fifth cervical vertebra. The danger of efforts at reduction having been explained to the parents, consent was obtained to make the attempt. The patient was seated on a stool, and an assistant, standing in front of her, fixed the shoulders; the author stood behind the patient, seized the chin with both hands, and exerted moderate traction of the head upward, more, however, on the right than on the left side. This traction, being continued for several minutes, was at length followed by audible crepitation, and a return of the head to its natural position. The deformity posteriorly had disappeared, and movements were easy, though a little painful. No apparatus was applied, and after the eighth day all symptoms had disappeared. E. F.

Radical Cure of Hydrocele with Injection of Carbolic Acid (Rahn, *Allg. Med. Central-Zeitg.*).—Instead of the customary puncture and subsequent injection with iodine-tincture, which always produces pain and confines the patient to bed for some days, Prof. Hüter recommended an injection of carbolic acid, two per cent. The author has tried this method, and recommends it highly. There was no pain whatever, either during or after the injection; the patient took a walk immediately after, and would not stay at home on the second day. On the fifth day there was no swelling or tenderness, and the hydrocele could be considered cured. This plan of treatment, therefore, surpasses all the previous ones in painlessness and radical cure, and is, therefore, warmly recommended by the author. E. F.

Clinical Experiences with Esmarch's Bloodless Method of Operating.—Bruns (*Arch. für klin. Chir.*, xix., 4, 1876), after two and a half years' trial of this method, embracing its use in over one hundred and thirty operations, declares that he has seen no instance of paralysis or vascular derangement, even after long-continued constriction of an extremity. Of sixty-one amputations, but two (both Syme's amputations) were attended with gangrene of the flap. Skin-flaps were generally made; to prevent the introduction of purulent matter from the extremities he has either applied the constricting band at once above the suppurating parts, or merely elevated the limb before applying the elastic roller. The greatest triumph of this method, in the writer's opinion, is the great facility it affords for the performance of many operations. Through local anæmia it permits a careful exploration of the tissues, which makes it easy to distinguish between healthy and morbid parts, and facilitates the rapid removal of the latter. This applies to operations for caries and necrosis, and for the removal of tumors and foreign bodies. The ligature of arteries in a wound is accomplished much more readily by its help, but in the continuity of the vessel the absence of blood renders an injury to the venous trunks more likely. In deeply-seated vessels, however, it is of great value. The effect of the actual and the galvanic cautery is more direct and intense on the tissues which have been deprived of their blood; the application is more quickly made, and no bleeding follows.

With reference to the diminished loss of blood, Bruns believes that in certain operations the method accomplishes all that could be desired. There are bone operations, exsections of joints, and others in which no large trunks are divided, and after which compression of the wound may be made before removing the elastic band. In many cases of amputation and disarticulation, the bleeding is not much less, and often greater than occurs with the employment of the tourniquet or manual compression. Dilation of the vessels (in all parts of the limb) follows the vaso-motor paralysis occasioned by the constriction, and the hæmorrhage, often obstinate, varies with the degree and duration of the constriction. Spence, Chiene, and Verneuil have expressed similar opinions.

Esmarch claims that with the local anæmia anæsthesia is caused of sufficient degree to render small operations painless. In this regard Bruns believes (with Billroth, Tielat Maas, and others) the method to be of no practical use. With the help of the ether spray, however, complete local anæsthesia might be rapidly effected. W. T. B.

Rare Dislocations.—Dislocation of the Ensiform Cartilage forward was observed in a man of fifty-three years, who fell against an iron chest, receiving the blow in the epigastric region. Severe local pain was experienced, and a hard tumor of the shape of an almond was felt, which, by means of pressure backward, was reduced with a snapping noise.—GALLEZ, *Bulletin de l'Acad. Royale de Méd. de Belgique*, tome x., No. 2.

Dislocation of the Symphysis Pubis from Muscular Violence.—A laborer, while making a strong effort with the adductor muscles to regain the upright position after throwing a heavy weight, felt a sharp pain, a cracking and a tearing sensation, in the pubic region; but he was able to continue his work, annoyed only by a feeling of fatigue while walking. Five days later Gallez detected a displacement of the left os pubis outward and downward, the articular surface being directed forward and inward, and its posterior edge overlapping the anterior edge of the opposite bone. No urinary troubles and no ecchymoses. Flexion and abduction of the thigh gave rise to a sensation of mobility of the os pubis, but the fatigue in walking was the only uncomfortable symptom. The patient would not allow any other treatment than the application of a firm girdle around the pelvis, which restrained the movements of the separated articular surfaces. After five weeks he returned to hard labor.—*Centralblatt für Chir.*, 1876, No. 20, p. 461. W. T. B.

Report of Four Cases of Hernia treated by the "Subcutaneous Silver-Wire Suture" Method inverted. By GREENVILLE DOWELL, M. D., Professor of Surgery in Texas Medical College and Hospital. [Philadelphia Medical Times.]

IN the "Transactions of the Texas State Medical Association for 1873," I published a circular upon the subject of the radical cure of hernia by a new operation. Since that time the number of cases operated upon has been raised by myself and associates to ninety-six, with eighty cures, sixteen failures, but no deaths. Of the sixty-eight operated upon by myself, sixty have been successful.

The following cases, which have all occurred since April, are reported as examples of the whole:

CASE I., *Partial Failure.*—P. B., colored; aged about thirty-nine; stout and healthy. Hernia right side, seventeen years' standing; large scrotal; April 11, 1876.

Operation for radical cure by our plan of subcutaneous sutures with silver wire. Patient put under chloroform by Dr. Ornim Knox, of Jonesville. We reduced the hernia; then, having made three lines, one over centre of tumor, and one on each side, about half an inch from the centre, four stitches were put in, one below the other. This was a bad case for the operation, as the tendons were severed above the ileo-pubic ligament for two inches, and the hernia was direct at the line of the operation, but probably had become so by long standing, as the opening was so large.

April 13th.—Doing well; scrotum slightly swollen, but not painful; no fever.

19*th.*—No fever; scrotum much swollen, but soft; ligatures removed; cure appears perfect; bowels had been moved yesterday.

May 30th.—Saw patient; bowel had returned to sac on the night of the 24th, while in bed, he having been ploughing and riding. The swelling of the scrotum had never been reduced, and I ought to have put in a seton through the sac, or used Wurtzer's needle so as to cause destruction of old sac. This was neglected in this case, and was one cause of failure, but the great distance to which the tendons were separated was the main cause, and in subjects as old as this man can rarely be pulled together at one operation. Applied a Pomeroy truss, and left him at work and comfortable. I will reoperate in October.

Case II. *April* 19, 1876.—H. S., aged sixty-nine; knock-kneed from a boy; ruptured on left side; very large scrotal. He suffered eighteen years ago with strangulation, and was operated on by Drs. Ornim Knox and H. P. Perry; recovered, and was cured for one or two years. Ever since it has been getting larger, until now it is as large as a boy's head. Assisted by Dr. Knox, who gave chloroform, I operated by the "subcutaneous suture." Reducing the hernia, we put in four stitches, one below the other, about one inch apart, and pulled the parts well together, overlapping the tendons.

April 21*st.*—Doing well; no fever; ordered the bowels to be moved with Epsom salts.

27*th.*—Stiches taken out; had not had any fever; bowels had been moved; scrotum tender, but very little more swollen than at time of operation. Operation a cure. Dr. Knox writes me, June 25th, "*H. S. a perfect cure.*"

Case III.—J. B., aged seven; healthy; hernia, scrotal, left side, three years' standing, supposed to be caused by having had a rope tied around the body. Dr. Knox gave chloroform. One ligature completely closed up the opening.

April 25*th.*—Up, walking about; no fever; very little swelling of scrotum, a little red.

28*th.*—Ligature taken out.

I was taken very sick about this time with bilious fever, and did not see him any more until May 20th. Upon examination, found a swelling of the cord; pronounced it hydrocele of the cord, and stated that it would require a second operation.

May 26*th.*—Operated on the cord, putting in three ligatures, one below the other.

28*th.*—Testicle much swollen: old sac enlarged; no fever. Gave him one-eighth of a grain of morphine to keep him easy and make him sleep. No fever; walking around the room, and even out in the yard; has good appetite. I left next day for Philadelphia. Dr. Knox writes, June 25, "J. B. perfect success; family much pleased."

Case IV. *May* 26, 1876.—I. I. P., aged twenty-eight; native of South Carolina; hernia, testicle, right side; no scrotum on that side; testicle lodged in superior ring; swells and gives great pain, especially when he lifts or rides much; was much swollen yesterday. Dr. Knox gave chloroform. Present, patient's father and others. Mr. P. said his son had been born with no scrotum on that side, and the testicle had not come out more than we then saw.

Operation.—Testicle pushed up and back; four ligatures put in subcutaneously, one below the other—I say below, as the upper stitch must always (in this method) be put in first—making one line in centre and two on each side; having moved the bowels well, as is my custom, and also moving them before taking out the stitches, giving morphine whenever patient is in pain, and applying cold lead and laudanum water when it is soothing and pleasant. After pushing in the ligatures we put lint over them, and poured collodion over this, which excluded the air, and compressed the parts. I also, when they cut the wires, put on lint, and poured on collodion.

May 28*th.*—Had to take some morphine to keep easy; no fever; bowels ordered to be moved with Epsom salts. Dr. Knox writes, June 25th, "Mr. P. well; walking about."

Rare Case of Fragility of the Bones.—This disease is extremely rare in childhood, only a few cases being known. The case referred to at present is that of a girl twelve years of age. She was very precocious, and at the second month had a fracture of the femur. By the time she had arrived at the above-mentioned age, she had sustained, from very trivial causes, forty fractures of the several long bones, in addition to a transverse fracture of the sternum. These fractures were not followed by lacerations or contusions of the soft parts, nor by inflammatory reaction. On the contrary, the process of reparation was very slow, several months or two or three years being necessary to form a callus of a certain hardness. The patient's muscles were tolerably well developed; the appetite was good; there was no history of scrofula or syphilis in her family; the urine was acid and overloaded with phosphate and oxalate of lime, urate of soda, and phosphate of ammonia. Such a condition is produced by a partial obliteration or diminution of the calibre of the nutritive vessels of the bone, by which, while the density of the periosteum is increased, the assimilative and nutritive power of the bone itself is destroyed. Four years of treatment failed to ameliorate the condition of this unfortunate girl to any extent.—*La Salute* and *Gazz. Med. Ital. Venete*, No. 26, 1876.

G. R. C.

Sub-periosteal Extirpation of Calcaneum.—M. Ollier recommends the removal of the entire calcaneum (done sub-periosteally) in young patients. He claims that the bone is reformed to a degree sufficient to fill out the prominence of the heel. The operation is not indicated in all cases of osteitis of the calcaneum—only when the whole bone is affected. If the neighboring bones are much affected, the operation is not indicated. In all except young patients amputation is preferable in such cases.

M. Vincent, in a *brochure* ("De l'Ablation du Calcanéum," Masson, Paris, 1876), publishes in detail M. Ollier's ideas; from the figures published, it is evident that the operation is successful chiefly in infancy and adolescent age.—*Gaz. Hebd.*, August 11, 1876.

Treatment of Acne Rosacea.—M. Ollier, in a note presented to the Academy of Medicine, advocates radical treatment in cases where there is hypertrophy of skin over the nose, "*nez éléphantiasique*," as he terms it.

The cartilaginous skeleton of the nose is to be preserved intact. The wound which results heals by granulation, and the cicatrice in time becomes of a color more in harmony with the neighboring skin. At first of a violet color, it becomes paler gradually. The contraction of the cicatrice does not alter sensibly the form of the nose, as one would be led to believe.

The "*décortication*" can be done by a scalpel or the galvano-cautery, or a dissection, and afterward the actual cautery. This latter is recommended as the most advantageous in most cases. (Hebra recommends the use of the curette.—*Rep.*) Elephantiasis so treated does not recur.—*Gaz. Hebd.*, August 18, 1876.

Sulphate of Soda as an Antiseptic.—M. Minich, of Venice, presented to the Academy of Medicine at Paris a treatise on the use of sulphate of soda in antiseptic surgical dressings, in the place of carbolic or salicylic acid. The advantage is the comparative cheapness of the salt.—*Gaz. Hebd.*, August, 1876.

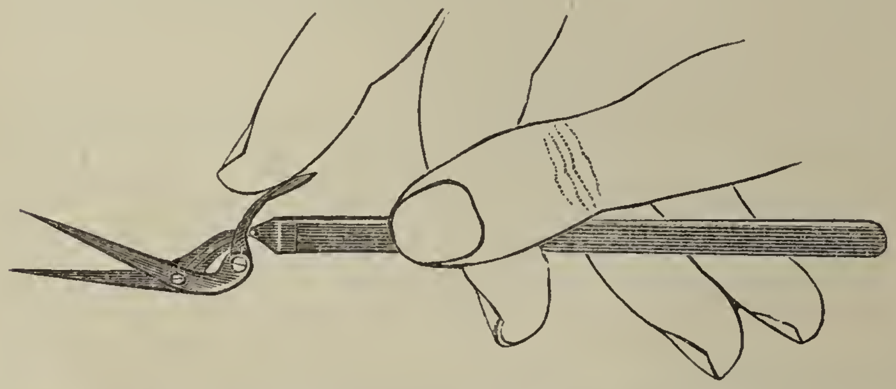
E. H. B.

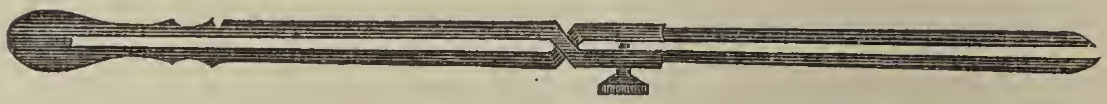
Echinococcus of the Broad Ligament.—This case, according to Dr. Fred. Schatz, is interesting not only because of the rarity of echinococci in the pelvis minor, but also for the reason that it is the only case in literature of an isolated echinococcus in the broad ligament. But a small number of cases of echinococcus of the small pelvis are mentioned in literature—thirty cases in all are enumerated—and of these in only one case in the large ligament. This is Case 31 of Boecker's dissertation, Berlin, 1868. There were fine saccules united in a group, from the size of a pea to that of a filbert, but in that case there were also echinococci of the liver.—*Il Farina* and *Gazz. Med. Ital. Venete*, No. 32, 1876. G. R. C.

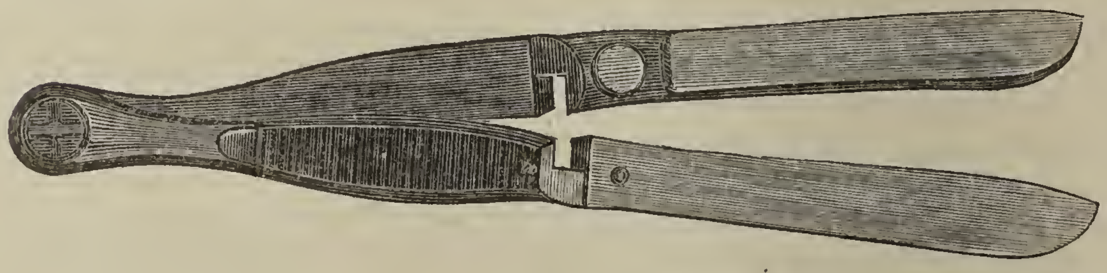
Treatment of Urethral Strictures by Means of Internal Massage (Bardinet, *L'Union Méd.*).—While formerly a thin bougie, after its introduction into the stricture, was allowed to remain without being moved, the author has adopted a method directly opposed to the former. The bougie, being introduced, is moved forward and backward, the motion being very moderate at first, but gradually increasing in extent until the instrument passes a track of from eight to ten centimetres. At the same time the bougie is also rotated; at first being held tightly in the stricture, it becomes perfectly loose after from ten to thirty movements. This process is continued with bougies gradually increasing in size. In allowing the bougie to remain quiet, the object was to prevent the annoying irritation of the urethral mucous membrane. But this is trifling when massage is employed, and diminishes in proportion as the bougie, after being moved back and forth several times, becomes looser. There is no contraindication, therefore. The bougie should always be very well oiled. Experience has shown that fever, etc., is much rarer when this method, of so-called internal massage, is used. E. F.

HISTOLOGY.

Improved Instruments for Microscopic Sections.—Prof. Axel Key, of Stockholm, in conjunction with Stille, instrument-maker of that city, has







made some very desirable improvements in the microscopic scissors and the double knife, as will be seen by reference to the cuts annexed.

The old form of the scissors is described in the *Upsala läkareförenings* *förhandlingar*, band. iii., s. 508. The principal advantage of this modification is that, when it is, for example, desired to divide a small portion of a preparation, even when extended on the object glass, the lower blade of the scissors rests on the glass and is immovable, and one may thus avoid all derangement of the preparation. As the cut suffices to give an idea of the instrument, a description is unnecessary here.

Prof. Key admits that the razor should continue to be the principal instrument of the skillful histologist for making thin sections; still, there are cases where a well-constructed double knife renders inestimable services. This is especially the case when it is necessary to make thin sections of large extent in entirely fresh specimens, or those preserved in a macerating fluid, or those not completely hardened, a task which is frequently incumbent on pathological anatomists. He thinks the discredit into which the double knife has fallen is due to the construction of these instruments being faulty in one regard or another.

The requirements in their construction are:

1. An exact parallelism between the branches themselves.
2. That the blades during the section do not separate from each other.
3. That they have a sufficient length and breadth to receive a specimen of considerable extent.
4. That the sections may be readily detached without changing the position of the blades.
5. That not only the whole instrument, but especially the blades, may be readily cleaned.

All these advantages are presented by the instrument represented in our cut. It is entirely of steel, and consists of two branches, one-half of which forms the handle and the other the blades. A simple mechanism, which readily permits of separation, unites them at the end of the handle. The blades cross behind like continuous pressure-forceps. These blades have strong springs, so that the cutting surfaces are strongly pressed toward each other. They may be separated from each other to the desired distance by means of a screw. A slight compression suffices to open the instrument, and the blades are disengaged by a lateral pressure of the fingers. By means of this instrument any number of consecutive sections of a given thickness may be obtained. In using the instrument, the blades should be moistened with water, alcohol, or some preservative fluid. The instruments may be procured from Stille, instrument-maker, Stockholm, Sweden.—*Nordiskt Medicinskt Arkiv.*, sjunde bandet, No. 25.

G. R. C.

OBSTETRICS.

The Duration of Pregnancy.—In 1866 Prof. Faye and Dr. Vogt published some statistics concerning the duration of pregnancy, from the fecundating coitus to the birth of the fœtus at maturity. Their material was furnished by the "Maternité" of Christiania. According to these statistics, the mean duration was 270 days, the shortest was 220, and the longest 319 days. This considerable latitude, and especially the brevity of the shortest period, may be explained, perhaps, according to Stadfeldt, by the extraordinary faculty which the Norwegian women possess of hastening the maturity of their fœtus, a faculty which they really do possess.

The determination of the epoch of fecundation is always a very difficult question for the medico-legal physician to resolve; hence Dr. A. Stadfeldt has endeavored to contribute to the solution of the problem in so far as Denmark is concerned. The duration of the pregnancy from the fecundating coitus up to term has been calculated from 34 reliable cases, to which the author has added 31 cases collected by Dr. Ravn. It is shown by Table No. 1 that the mean duration in these 65 pregnancies was 271.8 days, and the latitude from 250 to 293 days. If the days are grouped by tens, the pregnancy has lasted—

from 250–259 days in 4 cases.
" 260–269 " 19 "
" 270–279 " 32 "
" 280–289 " 9 "
" 290–300 " 1 case.

The proportion of the weight of the infant to the duration of pregnancy is not shown by the system of tables adopted.

The duration of pregnancy in the physiological sense should, according to the author, be calculated from the epoch of the first suppression of the menses, the modern physiologists having been led to admit that the fecundated ovum is derived from this period of ovulation. The pregnancy would, therefore, be very much shorter than is generally supposed. In 24 cases, where he thought he could determine the period of the first suppression of menstruation, the mean term was 254 days, with 240 and 273 days as the extreme limits. The latitude is thus much more restricted according to this method of reckoning than according to the others, which are consequently less accurate.—*Nordiskt Medicinskt Arkiv.*, sjunde bandet, fjärde häftet. G. R. C.

DISEASES OF WOMEN.

Papillary Fibroma of the Female Urethra.—Dr. G. Sirignano (*Il Movimento Med. Chirurg. di Napoli*, Nos. 10–12, 1876) gives an historical account of this singular neoplasm, and shows that it was described by Warner, Stanley, Petit, Hughes, and Boyer among the older writers, and by Gerdy, Schutzenberger, Nicot, Velpeau, Scanzoni, and others among the later ones. He gives the following definition: The papillary tumors of the female urethra are tumors of a fleshy consistence, vascular, of variable size, with lobular surfaces, reddish blue or dark red in color, sometimes sessile, at others pedunculated, implanted in the urethral mucous membrane, and now and then extending throughout the entire urethral canal. They proceed anatomically from the elements of the urethra. They are papillary and follicular in structure. The description of their structure, which has been given by Velpeau, Wedl, and Virchow, leads the author to conclude that these papillary tumors are derived from the connective tissue, which proliferates and forms at first simple excrescences; then, increasing, they acquire a remarkable form and volume (*papilloma* of Cramer). The etiology is obscure, including mechanical causes, excessive venery, masturbation, uterine and venereal diseases. Among the noteworthy symptoms is pain during micturition. Sometimes they ulcerate, give rise to muco-purulent hypersecretions, impede coitus, etc. The diagnosis is not difficult and the prognosis is not grave. The cure is obtained by the following means: Ligation, excision, torsion with evulsion, cauterization, removal with the écraseur or the galvano-caustic loop. The author regards the two last as the best means. He also speaks well of the instrument of Meyer and Meltzer.—*Lo Sperimentale*, June, 1876. G. R. C.

Insufflation in Surgical Operations.—Dr. Julian Aguilar has communicated to the *Revue Méd. Chir. de Buenos Ayres* a new operative procedure which has been successfully employed in the surgical clinic of that city.

The insufflation consists in the introduction of a certain quantity of air into the subcutaneous and intra-muscular cellular tissue, which facilitates certain operations, especially the extirpation of tumors. The method of performing this is easy: An incision is made in the skin, and a trocar is entered obliquely, through which the air is slowly forced in by means of a pump. The deeper strata may be treated in the same manner, and in this way the various tissues may be readily separated from each other. When the operation is to be performed in very vascular regions, or when the disease has invaded important organs, the insufflation eliminates many of the dangers inherent to the operative procedures. If the principal vessels of the region, arteries or veins, or the nerves, are included in the degeneration, a stratum of insufflated cellular tissue is always met with around them, which facilitates the dissection; the same is also true of the tendons. In short, the insufflation renders the operation more easy, more rapid, and more secure, permitting the surgeon to substitute his finger for the bistoury, or the back of the instrument. Important organs are thus respected which could otherwise not be exposed without deep dissections. If the operation is performed in the vicinity of organs which might readily be wounded, such as the intestine in a case of strangulated hernia, the insufflation renders great service. One of the great inconveniences of this method is the artificial emphysema which is produced by the insufficiency of the means for its limitation; but from this cause we have never, says the author, observed untoward effects. Simultaneously with this method the author uses Péan's forceps for continuous pressure to restrain the hæmorrhage. In conclusion, twenty difficult and dangerous operations are enumerated, in which this method rendered very important service.—*Gazz. Med. Ital. Venete*, No. 26, 1876. G. R. C.

Removal of Mucus from Neck of Uterus.—All physicians occupied in treating the diseases of women know how difficult it often is to cleanse the uterine orifice and to remove completely the adherent viscous and tenaceous mucus, which is characteristic of certain forms of disease. Chemists have long been asked in vain to furnish an inoffensive substance capable of being mixed with the mucus, and which might serve to cleanse the orifice with rapidity. Prof. Pajot experimented with many substances for this purpose, and, as usual, the most simple idea was the last to appear.

A pledget of lint is to be saturated in the yolk of a fresh, raw egg, and then immersed for a few seconds in the mucus; one or two injections of water are then to be made into the speculum, while the lint is gently moved about. After allowing the liquid to escape, the neck is to be dried, and it is then found free from all secretion.—*Annales de Gynécol.* and *Lo Sperimentale*, July, 1876. G. R. C.

THEORY AND PRACTICE.

The Gastric Condition and Gastric Fever.—The gastric condition consists in a catarrhal fluxion of the stomach and duodenum. It coincides almost always with a certain degree of stomatitis, but this may exist without the gastric condition, and *vice versa.* An emetic, directed against the gastric condition, is not, therefore, necessarily indicated by the saburral condition of the tongue. Taking the state of the tongue exclusively as a guide, one would run the risk of repeating that remedy to the injury of the patient, the more so as, most frequently, the stomatitis remains after the gastric condition has disappeared, and then the continuation of such treatment retards the return of the appetite. Bitters and acids are adopted for isolated stomatitis.

The gastric condition, without buccal manifestations, is characterized by anorexia, cephalalgia, remittent fever, and evening exacerbations (gastric fever of Pinel); the rapidly-curative effects of emetics show the nature of the disease. It is necessary to recognize the gastric condition from the symptoms of the patient: Pains, spasms, cephalalgia, lateral prickings, dyspepsia, vomiting, diarrhœa, vertigo, remittent or intermittent fever, and debility so frequent in the autumn. Emetics remove all these symptoms rapidly; purgatives, rubefaction of the skin, leeches, blisters, opium, chloral, and bitters, are of no use. The purgative cure should be reserved for the intestinal condition, or for complex cases, in which the latter condition has supervened; for, as the gastric condition most frequently terminates by a critical vomiting, the alvine evacuations are the natural crisis of intestinal catarrh as well as of cholera nostralis, and the sudorific crisis appertains to bronchial localizations.

The gastric fever is more or less independent of the gastric condition, and may be protracted in the form of quotidian or double tertian intermittent fever, more rapidly curable by cinchona than by quinine. The cephalalgia, spontaneous or provoked by a more or less violent movement, was considered by Le Roy, of Montpellier, as the most certain and constant sign of the febrile condition, while our author, Dr. M. Audhoui, says the same of the gastric condition.

The remittent type belongs to the gastric fever; the exacerbations are vespertine, and are not necessarily conjoined with cold or heat. The remittent gastric fever, with vespertine exacerbations, may be readily mistaken for a light typhoid fever; and this, cured by an emetic, passes for a typhoid fever which has been cut short (*tifus abortivo* of Lebert).—*Lo Sperimentale*, June, 1876. G. R. C.

Method of instantaneously arresting Palpitations.—Treating of cardiopalmus, Dr. Maidier proposes to make the patient bend over, with the head downward and the arms hanging. Thus, a greater quantity of blood flows to the brain, and the heart beats normally, the more so if an effort is made to suspend the respiration.—*Union Médicale* and *Lo Sperimentale*, July, 1876. G. R. C.

Numerous Cysticerci in the Brain and Meninges. — Dr. Luigi Mazzotti relates (*Renista Clinica di Bologna*, No. 4, 1876) the very important case of a lady, thirty-two years of age, who a year previously commenced to manifest alterations of the mental faculties, visual hallucinations, to which were soon added accesses of convulsions, transformations of the moral character, severe pains in the head, especially toward the nucha. Dr. Mazzotti could only obtain negative results from his somatic examination. The principal suffering was a pain in the head, occurring in convulsive accesses, during one of which the patient died. The autopsy showed the dura mater hyperæmic, studded everywhere with small bodies about the size of a chichling vetch; these were cysts full of liquid, and containing a small white worm, which was thin and folded on itself. There were numerous other analogous bodies on the arachnoid and the pia mater. The brain was literally studded with these cysts, which might have been about one hundred in number. There were none in the remainder of the encephalon or in any other part of the body. On examination of the vesicular bodies, they were found to be the cysticercus cellulosæ, or larva of the tenia solium. The rarity of the case consists not only in the peculiar clinical symptomatology, but also in the circumscribed extent of the lesion. The existence of cysticerci in the brain, without the participation of other organs, is very rare. Their immense number in the present case is also an exception to the rule, never having been found to exceed sixty (Jaccoud).—*Lo Sperimentale*, June, 1876. G. R. C.

Hydrophobia following the Bite of a Cat.—Messrs. Prevost and Saloz, of the Hospital of Geneva, report a case of this sort. After giving a detailed account, they conclude as follows:

1. The case is an example of the development of hydrophobia from the bite of a cat. Previously to wound of the patient, several hens and rabbits were bitten by the cat, and all died, probably of hydrophobia. At the time there were several cases of hydrophobia among dogs. It was not known whether the cat had been bitten.
2. Hydrophobia appeared in the woman forty-one days after the bite.
3. A few days before the symptoms of the disease appeared, the wound on the ear opened, and there was a serous discharge. The finger, hand, and arm, became painful.
4. Morphia, subcutaneously in large doses, was of little use in calming the patient.
5. Inhalation of chloroform provoked violent spasms, so that its use was contraindicated.
6. Injection of chloral in the veins brought about sleep, and a state of calm. The dose was repeated, and, in all, 17.50 grains were used in twenty hours.
7. The treatment was only palliative, as the patient finally died; but the benefit of chloral as relieving suffering seemed very marked.—*Gaz. Hebd.*, August 11, 1876. E. H. B.

Miscellany.

The Military Tract Medical Association of Illinois.—This Association was organized at Kewaunee, Illinois, May 22, 1866, by representatives from the counties of Bureau, Henry, Knox, and Stark, to which were afterward added the counties of Warren, Henderson, and McDonough. A. H. Thompson, M. D., was chosen First President, and George H. Scott, M. D., First Secretary. The Association has been eminently prosperous, and has now a roll of one hundred and twenty-six members, and the number is rapidly increasing. The meetings of the Association are semi-annual, and are held in January and June of each year. The Association is represented in the State Medical Society by eighteen delegates, and in the American Medical Association by twelve delegates. The present officers are: President, H. S. Hurd, M. D., of Galesburg; First Vice-President, S. P. Breed, M. D., of Princeton, Illinois; Second Vice-President, J. F. Todd, M. D., Galva, Illinois; Secretary and Treasurer, Herbert Judd, M. D., of Galesburg. L. S. Lambert, M. D., of Galesburg, is acting Secretary.

A Medical Register for New England.—"The Medical Register of Massachusetts," it is announced by Messrs. Hurd & Houghton, will this year be enlarged and made a complete register for the New England States, under the editorship of Dr. Francis H. Brown. The register will contain statistical and practical information concerning medical, dental, and pharmaceutical societies and associations, hospitals and dispensaries, charitable asylums, institutions, and societies, professional institutions of education, laws and ordinances relating to medical men, lists of nurses, surgical-instrument makers, chemists, microscope-dealers, etc., together with an autobiographical record of the members of New England medical societies.

Bellevue Alumni Association.—The Bellevue Hospital Medical College Alumni Association held their annual meeting on the evening of Tuesday, the 26th of September, at No. 12 West Thirty-first Street. A resolution was passed, appointing a committee to consider the feasibility of establishing a course of lectures, under the auspices of the Association, the committee to report at the next annual meeting. The election of officers for the year 1876–'7 resulted as follows: President, J. D. Bryant; First Vice-President, A. A. Smith; Second Vice-President, John Mitchel; Secretary, G. W. Wells; Corresponding Secretary, E. D. Morgan, Jr.; Treasurer, Wm. H. Katzenbach. The office of College Historian, F. A. Castle, is a permanent one.

Appointments, Honors, etc.—The chair of Surgery in Heidelberg, vacated by Prof. Simon on account of illness, is to be filled by Dr. H. Lossen. Prof. Kussmaul will be succeeded in Freiburg by Prof. Bäumler. Kussmaul succeeds Leyden in Strasburg, Leyden succeeding Traube in Berlin. Mr. George Hugh Kidd, President of the Royal College of Surgeons in Ireland, and the leading obstetric surgeon in Dublin, has been selected to succeed the late Dr. John Ringland as Master of the Coombe Lying-in Hospital, Dublin.

The Medical Society of Yokohama.—We learn from Dr. Stuart Eldridge that the organization bearing the above title is in a flourishing condition, and includes representatives of the following nationalities: American, Austrian, Dutch, English, French, German, and Russian. The Society has adopted the code of ethics of the American Medical Association.

Sayre's Orthopedic Surgery.—We are gratified to learn that arrangements are in progress for the speedy translation into German and French of Prof. Sayre's volume on "Orthopedic Surgery, and Diseases of the Joints." There has already been a large European demand for the work in English.

The Influence of Phthisis upon Child-bearing.—Among the numerous theses sent in this year for the Doctorate of Medicine of the Faculty of Paris is one by M. F. Ortega upon the above subject. The essay is fairly summarized in the *Revue des Sciences Médicales*, and the following are among the chief conclusions arrived at by the author, as a result of investigations in ninety-five cases: Phthisis has in the first place a marked effect upon conception; thus the author only met with thirteen out of his ninety-five females who, after the commencement of pulmonary symptoms, bore more than one child, and a third pregnancy was very rare in such circumstances, although many of the women were multiparæ. In all these cases the phthisis was in the first and second stage, in one only it was advanced. In this case there was an abortion at the fourth month, and death shortly after. As to pregnancy, more than one-third of the cases aborted or were premature deliveries, and, reckoning only those who had a tubercular history, in but one-half did the pregnancy last till full term. Phthisical mothers are, moreover, unable to suckle their offspring, for, setting aside ten cases in which phthisis developed during and probably under the influence of lactation, only eleven out of sixty-four infants were suckled by their mothers; and these infants, healthy at first, soon showed signs of insufficient nutrition, and died with enteritic symptoms. M. Ortega's cases show also that pregnancy hastens the evolution of phthisis to a marked extent, delivery being rapidly followed by the death of the mother, although the first days of the puerperal state are generally marked by a considerable abatement in the pulmonary symptoms. Both pregnancy and lactation he regards as exciting causes of phthisis in predisposed subjects.—*Lancet.*

The Ex-Empress Charlotte.—Nine years ago Maximilian, Emperor of Mexico, closed his brief reign in the courtyard of Quéretaro, where he was shot by command of the late President Juarez, and ever since his widow, the ex-Empress Charlotte, has been a prey to acute melancholia—the paroxysms of which, however, were at first followed by intervals of partial return to reason. In these she was allowed to amuse herself—if amusement be the word for an occupation which turned upon the deepest tragedy—in writing the experiences of her husband and herself in their few months' sojourn in Mexico. This she has long abandoned, and in the château of Laeken, where she is under strict medical surveillance, she has relapsed into confirmed dementia, which her physicians have given up all hope of curing. As in similar cases, she recurs to the predilections of childhood, one of which was a passion for flowers, and, Ophelia-like, she spends most of her time over them, feeding as they do her once lively but now diseased imagination.—*Lancet.*

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 14 *to October* 13, 1876.

Randolph, J. F., Surgeon.—Granted leave of absence for four months. S. O. 208, A. G. O., October 6, 1876.

McKee, J. C., Surgeon.—Granted leave of absence for one month and twenty days, with permission to go beyond limits of this division. S. O. 138, Division of the Pacific and Department of California, October 2, 1876.

Byrne, C. C., Surgeon.—Granted leave of absence for one month. S. O. 120, Department of Dakota, September, 25, 1876.

Frantz, J. H., Surgeon.—Granted leave of absence for two months on surgeon's certificate of disability. S. O. 195, Division of the Atlantic, September 28, 1876.

Forwood, W. H., Surgeon.—Relieved from duty in Department of Texas, and to report by letter to the Surgeon-General when able to resume duty. S. O. 188, A. G. O., September 11, 1876.

Hartsuff, A., Surgeon.—Granted leave of absence for one month. S. O. 135, Department of the Platte, September 30, 1876; and leave extended one month. S. O. 110, Division of the Missouri, October 6, 1876.

Greenleaf, C. R., Surgeon.—Leave of absence extended one month. S. O. 194, Division of the Atlantic, September 27, 1876.

Jaquett, G. P., Assistant Surgeon.—On expiration of his present leave of absence, to report in person to the commanding general Department of the South for assignment. S. O. 188, C. S., A. G. O.

Waters, W. E., Assistant Surgeon.—Granted leave of absence for four months. S. O. 201, A. G. O., September 27, 1876.

Williams, J. W., Assistant Surgeon.—Relieved from duty in Department of Dakota, and to report in person to the Surgeon-General in Washington, D. C. S. O. 204, A. G. O., September 30, 1876.

Brown, J. M., Assistant Surgeon.—Assigned to duty at Fort Garland, Colorada. S. O. 202, Department of the Missouri, September 27, 1876.

Gardner, W. H., Assistant Surgeon.—Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 204, C. S., A. G. O.

Buchanan, W. F., Assistant Surgeon.—Granted leave of absence for four months. S. O. 206, A. G. O., October 3, 1876.

Kinsman, J. H., Assistant Surgeon.—Assigned to duty at Fort Sully, D. T. S. O. 121, Department of Dakota, September 27, 1876.

Tremaine, W. S., Assistant Surgeon.—Granted leave of absence for thirty days, upon completion of his examination for promotion. S. O. 202, C. S., Department of the Missouri.

Taylor, M. K., Assistant Surgeon.—Ordered before Army Medical Board for examination for promotion, and, on completion thereof, to rejoin his proper station. S. O. 188, C. S., A. G. O.

Koerper, E. A., Assistant Surgeon.—Assigned to duty at Camp Sheridan, Nebraska. S. O. 137, Department of the Platte, October 6, 1876.

Wilson, William J., Assistant Surgeon.—Leave of absence extended for four months on surgeon's certificate of disability. S. O. 211, A. G. O., October 10, 1876.

Moffatt, P., Assistant Surgeon.—Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 204, C. S., A. G. O.

Semig, B. G., Assistant Surgeon.—Assigned to duty with Company "G," First Cavalry, near Soledad Station, Cal., S. O. 127, Division of the Pacific and Department of California, September 9, 1876.

Bedal, S. S., Assistant Surgeon.—Assigned to duty at Fort Duncan, Tex. S. O. 174, Department of Texas, September 20, 1876.

Worthington, J. C., Assistant Surgeon.—Assigned to duty as Post-Surgeon at Fort Whipple, A. T. S. O. 108, C. S., Department of Arizona.

Turrill, H. S., Assistant Surgeon.—Assigned to duty as Post-Surgeon at Fort Davis, Tex. S. O. 172, C. S., Department of Texas.

Comegys, E. T., Assistant Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of one month; and, on expiration of leave, assigned to duty at San Felipe, Tex. S. O. 174, C. S., Department of Texas.

Reed, W., Assistant Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of fifteen days. S. O. 119, Department of Arizona, September 27, 1876.

Wood, M. W., Assistant Surgeon.—Assigned to duty at Camp Robinson, Neb. S. O. 137, C. S., Department of the Platte.

Rosson, R. L., Assistant Surgeon.—Assigned to duty at Camp Grant, A. T. S. O. 108, Department of Arizona, September 5, 1876.

Appel, D. M., Assistant Surgeon.—Assigned to duty at Fort Stanton, N. Mex. S. O. 206, Department of the Missouri, October 4, 1876.

Cunningham, T. A., Assistant Surgeon.—Assigned to duty at Fort Stevenson, D. T. S. O. 121, C. S., Department of Dakota.

Perley, H. O., Assistant Surgeon (recently appointed).—To report in person to the commanding officer, Fort Monroe, Va., for temporary duty. S. O. 188, C. S., A. G. O.

Jackson, D., Assistant Surgeon.—Died at Woodville, Ontario, Canada, on September 22, 1876.

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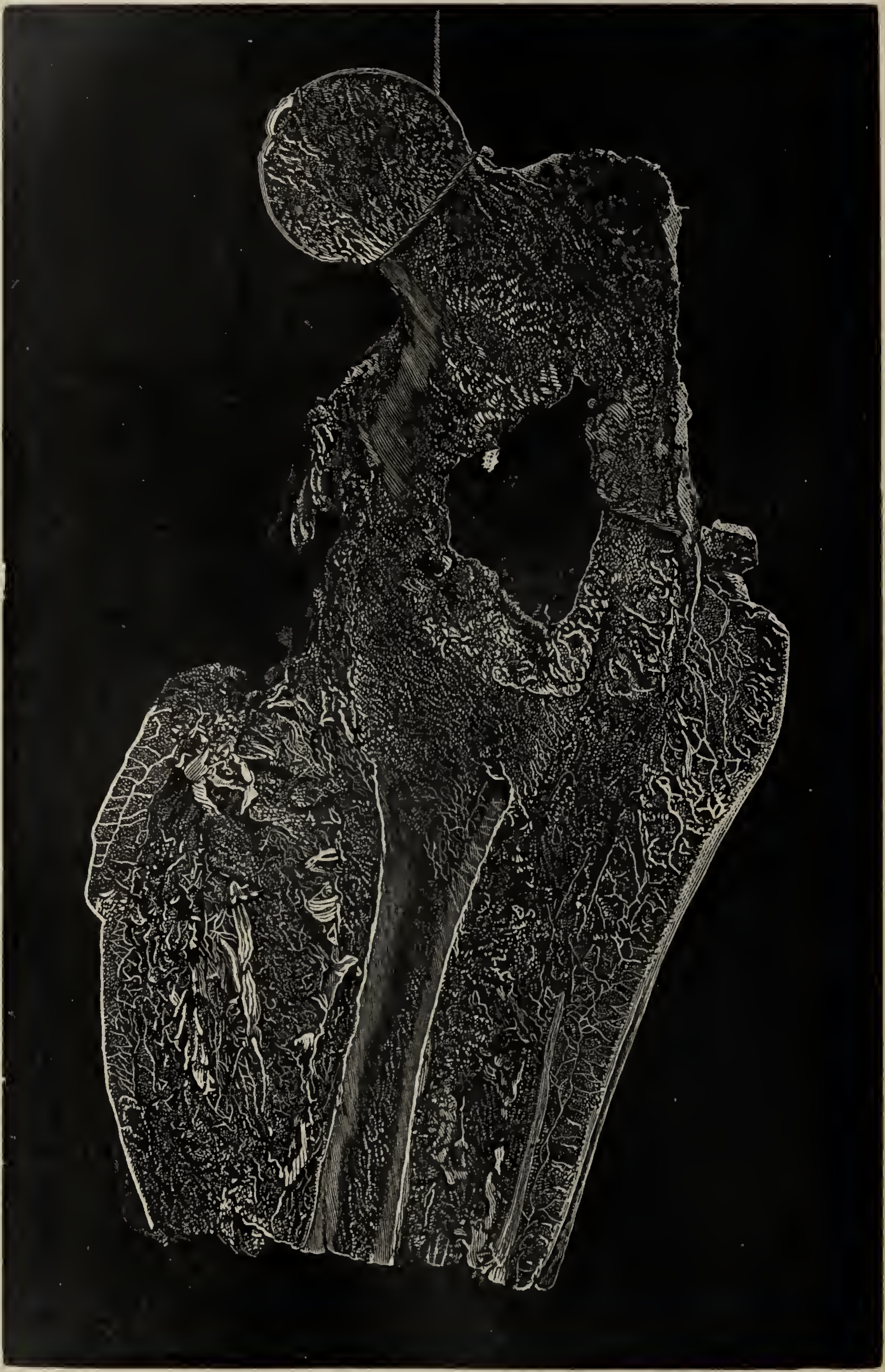


CHONDRO-SARCOMA.

(*From a Photograph of the Femur in Case II., Dr. Erskine Mason's Amputation at the Hip-Joint.*)

NEW YORK MEDICAL JOURNAL:

A MONTHLY RECORD OF

MEDICINE AND THE COLLATERAL SCIENCES.

VOL. XXIV.] DECEMBER, 1876. [No. 6.

Original Communications.

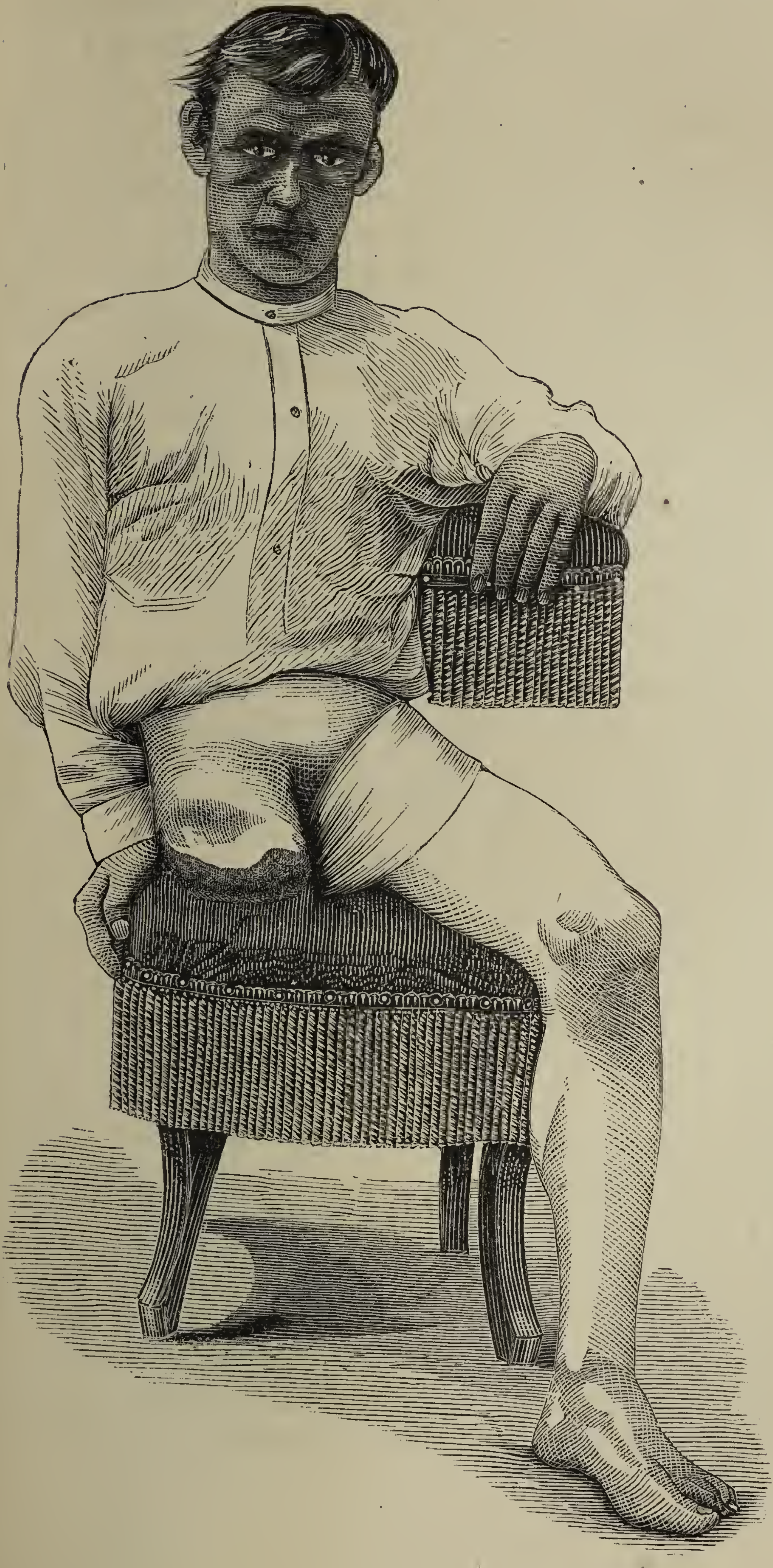
ART. I.—*Two Successful Cases of Amputation at the Hip-Joint, with Remarks upon the Operation.* By ERSKINE MASON, M. D., Surgeon to Bellevue and the Roosevelt Hospitals.

CASE I.—Charles Taylor, aged eighteen, native of New York City, worker in a tobacco-manufactory, entered my service at the Roosevelt Hospital, April 17, 1876, with the following history: At three years of age he had a severe attack of scarlet fever, which left him with a paralysis of the right lower extremity. When he had so far recovered as to get about, he was in the habit, "when tired of traveling on his crutch," of walking on the ball of his right foot, and resting his right hand upon the right knee; in this way was produced an extreme case of talipes equino-valgus. At eight years of age he had a fall from a window, which severely injured the knee, and he was told that he had broken it. Since this injury he has walked entirely with a crutch, and for convenience he would wrap the limb around the crutch (throwing the thigh anterior and external, the leg posterior and internal to it). For the past five years he has been able to place the limb with his hands in various abnormal positions, six of which positions are illustrated in the following diagrams, taken from photographs of the patient a few days before the operation. At times he would have pain in the hip-joint, and he stated that for some years he had made up his mind to have the limb removed, as it was always an incumbrance to him, and now it most seriously impeded him while at work. With this view he entered the hospital, being of an age, he said, to act for himself, and being prepared to take the consequences.

Examination upon admission shows the patient to be of the average height and in vigorous health, which he has enjoyed since his fall at eight years of age. Physically he presents a magnificent development, his muscles standing out (with exception of the right lower extremity) like those of a professional gymnast. Morally there seems to be no such thing as fear in his constitution. As he lies upon his back, the right thigh lies upon its outer surface, and at right angles to the pelvis. In this position the head of the femur can be felt to be near the ramus of the pubis. The leg is at right angles to the thigh, and cannot be extended, owing to a subluxation of the tibia outward. There is a paralysis of the extensor muscles of the leg and thigh, though some of the flexors and gluteal muscles are called into action. This limb is greatly atrophied, as shown by the following measurements:

Left thigh at gluteal fold	circumference	16¾	inches.
Right thigh at gluteal fold		12	"
Middle of left thigh	circumference	16	"
Middle of right thigh		9½	"
Circumference above left knee		12½	"
Circumference above right knee		8¾	"
Circumference below left knee		12¼	"
Circumference below right knee		8¾	"
Circumference above left ankle		7⅞	"
Circumference above right ankle		6	"

By circumduction of the thigh, the head of the femur can be made to change its position to a considerable extent. While at rest it seems to be just outside the ramus of the pubis, where it appears a new socket had been formed. No pain was elicited while examining the joint. The limb could be



placed in almost every conceivable position; and an idea of the great freedom of motion allowed it may be obtained from the accompanying cuts. Any amputation short of exarticulation at the hip-joint would have been of little or no use to him, as from the abnormal position of the head of the bone, and the want of muscular power, a serviceable artificial limb could not be had, and the remaining stump would also have been of great annoyance to him; and he did not entertain the idea of anything short of the entire removal of the limb. The gravity of the operation was explained to him, and the risk of life he ran, but he was firm in his determination and belief that he would recover. Upon consultation the operation was deemed justifiable, and one that offered flattering prospects of success.

April 20th, 2.30 P. M.—I performed amputation at the hip-joint, assisted by my colleagues, Drs. Markoe and Sands, and my friend Dr. George A. Peters. Esmarch's bandage was tightly applied to the limb as high up as the point of my incision (and allowed to remain on the limb during the operation), while an abdominal compressor was applied to the abdominal aorta, just above the umbilicus, by Dr. Peters, who most thoroughly supervised this part of the operation. The operation adopted was what is usually known as the circular method. The skin being divided with the large knife, it was drawn up by Dr. Markoe, and with a large scalpel I divided the various muscles to the ligaments, the soft parts being at the same time well retracted. As soon as the capsule was opened, Dr. Sands readily threw the bone from its socket. The anterior vessels were first ligated; the abdominal compressor was then removed, while the posterior vessels were controlled with pressure by sponges. The very small amount of blood lost was a surprise to all present. Thirteen vessels in all were ligated. It was estimated that not more than eight ounces of blood was lost during the whole operation, and half of this escaped from the limb through the femoral vein when this was severed. The fibrous capsule was then cut off close from the acetabulum, the inner half of the wound brought together with sutures, and the stump supported with straps. It was my intention to remove these sutures in a short time, and treat the stump as an open one; but so speedily did union occur, that this idea was abandoned. The pulse at one time during the ligation of the vessels sank quite suddenly; a drachm and a half of brandy was at once given hypodermically, and two ounces per rectum, which quickly restored it. The head of the femur presented a spot of erosion, about the size of the little-finger nail, just below the insertion of the ligamentum teres, another upon the anterior surface of the head near the neck, while the posterior surface was flattened and slightly roughened, a fact which, under the circumstances, rendered the operation still more justifiable. The bone was found not to have been displaced from its normal socket, as previously supposed, but surrounded by a large and relaxed capsular ligament, which, with a long ligamentum teres, permitted the great freedom of motion. The right side of the pelvis was found atrophied and tilted downward, or retracted, presenting, indeed, that form of pelvis known in obstetrics as a high degree of the oblique oval pelvis. The acetabulum being very capacious, and approaching nearer the median line than usual, caused our error in diagnosis. It was this condition, with the elongated ligaments, which allowed us to throw the head of the bone very close if not quite into the perinæum.

The following is a brief detail of the progress of the case: At 6 P. M. of the day of the operation the patient had recovered from the ether and shock; pulse 100, temperature 98°. I saw him that night about nine; he had taken his tea, and said he felt very well. Ordered him one grain of opium, and he slept well during the night.

21*st*, 9 A. M.—Pulse 100, temperature 101°; says he "feels bully;" good appetite; 6 P. M., pulse 108, temperature 103°.

22*d*, 9 A. M.—Pulse 100, temperature 101°; 6 P. M., pulse 100, temperature 103°.

23*d*.—Union of inner two-thirds of the wound; 9 A. M., pulse 108, temperature 102°.

24*th*, 9 A. M.—Pulse 96, temperature 100½°. Discharge from the wound slight.

On the 26th both pulse and temperature were normal. The stump was syringed out night and morning with a solution of salicylic acid and water (1 to 300), and for two or three days, the discharge being somewhat offensive to the patient, the wound was dressed with bromo-chloralum. At no time was the discharge very great, and some days the stump was washed out every four hours.

29*th*.—Had slight diarrhœa, which was speedily checked.

May 3*d*.—Three ligatures came away.

7*th*.—Three more ligatures came off, and by the 13th all the ligatures were away, and the wound had nearly filled up.

On the 15th a spica bandage was applied, and the patient, who for some days had been sitting up, was told he might leave his bed.

17*th*.—He sat up nearly all day. The cavity has contracted to the size of a pen-holder; dressed with balsam Peru and strapped.

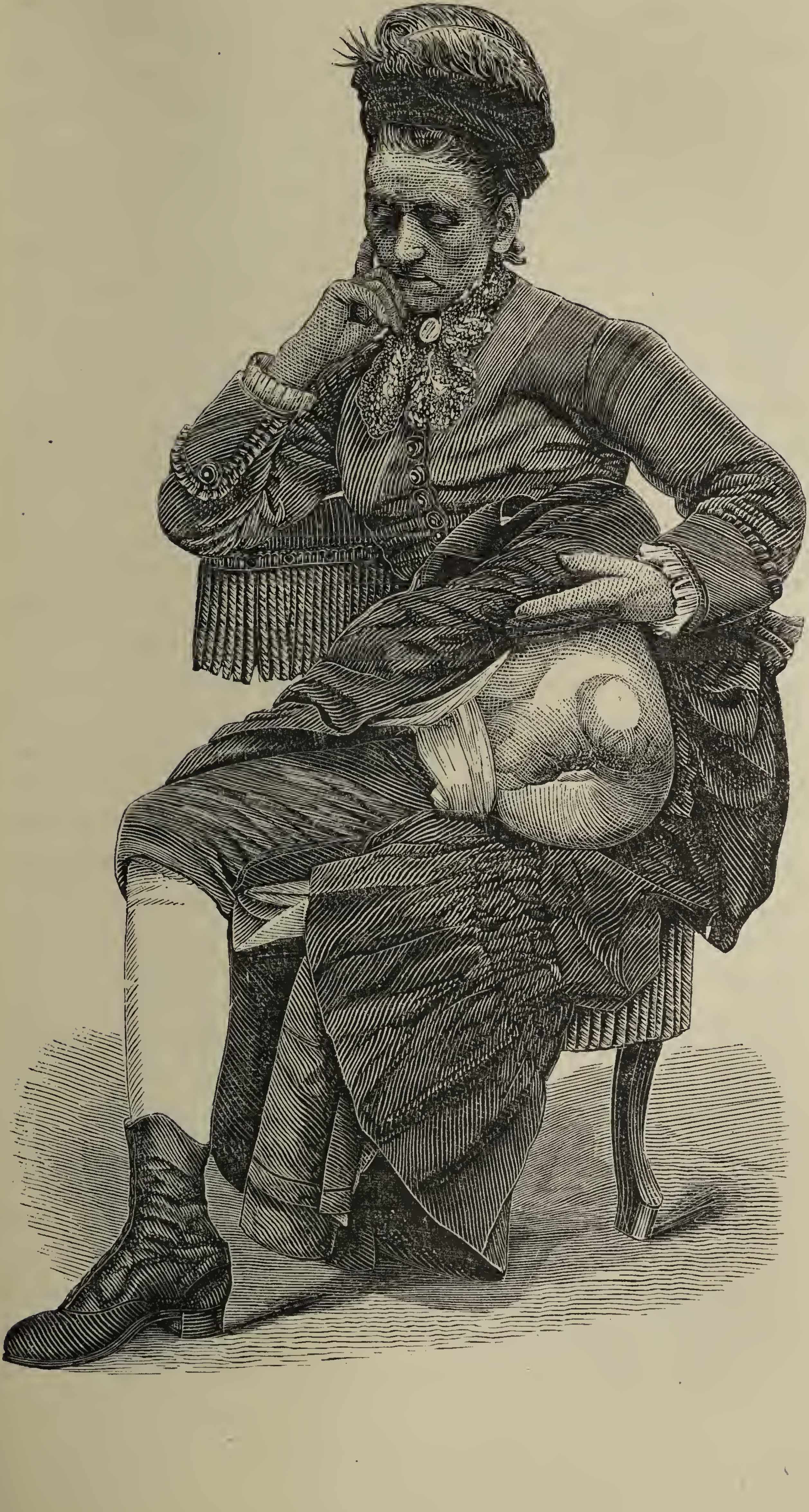
24*th*.—But a small portion of the wound not healed.

June 16*th*.—A small sinus was discovered running in the direction of the acetabulum. This day he ran a race around the hospital-grounds with a patient who had suffered amputation of the leg, and beat him. Patient remained in the hospital working about the ward some days after the stump had entirely healed. The sinus spoken of above had entirely closed, and he left the institution in sound health and with a beautiful stump, July 18th. The appearance of the stump is shown in the cut from a photograph which was taken the last week of September.

Case II.—Sarah Smith, aged thirty-five; England; widow; dress-maker; admitted to Roosevelt Hospital March 17, 1876.

Patient is a delicate-looking woman. Five years ago she first noticed pain extending along outer aspect of the left thigh from hip to knee; the pain became severe, and she was subjected to a variety of treatment, and at length received decided benefit. Five months ago she observed a small tumor situated on front part of the left thigh, just below the groin; at first it was soft and elastic, but gave her no pain; the growth, however, was rapid, and became hard and very painful, the pain being lancinating in character, extending to the hip and down the thigh.

On admission there was found a tumor situated on the



antero-lateral aspect of left thigh, two and a quarter inches below the antero-superior spinous process of the ileum, and extending from the median line backward to the great trochanter: its vertical diameter being three and a half inches; its transverse diameter, five and a quarter inches; circumference of left thigh over the tumor, twenty and a quarter inches; that of right thigh, eighteen and a half inches. The sartorius muscle and femoral artery skirt the inner margin of the tumor.

The tumor was hard and immovable, and apparently connected with the bone; its margins not well defined; skin not adherent. There was no enlargement of inguinal or lumbar glands, and no growth detected in the pelvis. Rotation of the thigh caused considerable pain, and she was no longer able to stoop over far enough to tie her shoe, on account of the pain the attempt produced.

Upon consultation, it was deemed advisable to attempt the removal of the tumor, and I did the operation March 28th, assisted by my colleagues, Drs. Markoe and Weir. A straight incision was made, commencing three-quarters of an inch to the outer side of, and two inches below, the antero-superior spinous process of the ileum, and extending downward for the distance of five inches. From the middle of this incision another was made outward to the extent of three and a quarter inches. The tissues were then carefully divided till the surface of the tumor was reached, which presented a white, glistening appearance. The tumor was now seen to be situated directly below the capsule of the joint, and was evidently firmly attached to the bone. Around the margin of the growth there were several spiculæ of bony growth. After the tumor had been disconnected from the soft parts, an attempt was made to detach it from the bone, but on so doing the sac ruptured, discharging a bluish-white material of the consistency of, and resembling very much, boiled starch; what remained of the tumor was then removed, and the bone which formed the posterior wall of this growth, together with the surrounding spiculæ, was cut away with the chisel; indeed, the whole surface of the exposed bone was thoroughly scraped. Just as we were about to close the wound, it was noticed that in a depression of the bone there was exuding some of the same kind of starch-like material as was contained within the growth that had been removed. In the attempt to scoop out this material, the necessary turning of the instrument caused it to drop into the medullary cavity, so soft was the bone-tissue at this point. From this opening there exuded a soft, pulsating mass. It was the opinion at this time that amputation at the hip-joint was indicated, but, the consent of the patient not having been previously obtained, the wound was closed.[1]

March 29*th.*—Passed a restless night; suffers but little pain; dressings removed, discharge very free.

30*th.*—A few sutures removed from most dependent portion of wound to allow drainage. Mosquito-netting bandage applied.

31*st.*—Two sutures removed from upper portion of wound. Union has taken place at lower part of first incision. Temperature normal.

April 3*d.*—Discharge is abundant; there is slight bagging at upper extremity of wound.

6*th.*—Bagging at lower and outer part of thigh; counter-opening made; irrigated, and tent of oakum passed through.

8*th.*—Suffers good deal of pain in limb; does not sleep well at night; is greatly annoyed by profuse night-sweats; ordered tr. ferri chlorid. m. iv, and quin. sulph. gr. iij, three times daily, and sp. vin. Gall. ℥ iv daily.

10*th.*—Discharge profuse and offensive, resembling fecal matter.

12*th.*—Somewhat improved; upper part of thigh doing well.

18*th.*—Wound very much improved; appetite still poor; discharge small.

23*d.*—Continues to improve; wound closing up, except three small openings along the first incision. Is sitting up for a few hours every day.

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[1] Dr. Delafield, the pathologist of the hospital, reported, upon examination of the growth, that the sac was composed of merely connective tissue and spiculæ of bone. The gelatinous substance adhering to the inner wall of the sac was composed of basement membrane, partly fibrillated, partly granular, and partly hyaline, in which were imbedded round fusiform and stellate cells, which resembled those of hyaline cartilage. It seemed to be a tumor composed of cartilage-tissue, with an excess of cells, a considerable admixture of ordinary connective-tissue cells, and belonging to the class of tumors known as *chondro-sarcoma.*

29*th*.—Ulcer on most dependent incision nearly healed.

May 1*st*.—Ulcer on dependent incision again communicates with a sinus; general condition is good; appetite improved; continues to suffer pain in the limb; still has night-sweats.

June 9*th*.—Upper portion of femur is evidently getting larger; suffers continually with pain; general condition is about as good as at any time since the operation. The proposal of amputation at hip-joint has been made to patient. The growth is supposed to be within the medullary cavity, with a small amount of periosteal growth.

11*th*.—Has concluded to have the limb removed.

14*th*.—Discharge free and offensive; night-sweats continue.

15*th*.—Is feeling badly this morning; suffered from nausea and vomiting during the night; takes very little nourishment.

16*th*.—Slept better last night.

17*th*.—Circumference of right thigh, sixteen and a half inches; circumference of *left* thigh, eighteen and a half inches. 2.30 P. M.—Patient under ether; Esmarch's bandage applied, together with abdominal compressor to aorta. I performed amputation at hip-joint, assisted by Drs. Markoe, Sands, Weir, and Peters. A circular incision was made with amputating-knife through integument, the skin retracted, and the tissues divided down to the bone, then dissecting them up along the femur to the joint; after disarticulation, the femoral artery was ligated, after which the abdominal compressor was removed, and other bleeding points secured, fifteen ligatures being used in all; hæmorrhage amounted to only *two ounces;* flaps brought together and held by five sutures, and drainage-tube inserted; patient showed but slight amount of shock during operation, her pulse being good throughout. 6 P. M.—Patient recovered from ether, and removed to her ward; there appears to be very little pain and no shock; given opii gr. j, and repeated in three hours; pulse 120, temperature 98½°. 12 P. M.—Patient is vomiting; five minims of Magendie's solution of morphia given hypodermically, and a mustard-plaster to abdomen, gave relief.

18*th.*—Suffers from effects of ether; pulse and temperature normal.

19*th.*—Patient slept well and is now quiet; no pain; wound washed out with salicylic acid, 1 to 500. 2 P. M.—Complains of pain across the abdomen and is restless; given Magendie's sol. morphia m. viij hypodermically every three hours, and turpentine-stupe applied to abdomen. 6 P. M.—Is relieved of pain and much more comfortable.

20*th.*—Still has pain in abdomen, but it is controlled by opium; takes but little nourishment; discharge from wound free and offensive; sutures all removed and stump treated as an open wound. 6 P. M.—Pain in abdomen has returned; patient is much prostrated and is vomiting matter of a greenish color; given sp. vin. Gall. ℥ss every hour. 12 P. M.—Suffers very much pain; abdomen tympanitic; pulse 135, thready and compressible; given Magendie's solution m. x hypodermically.

21*st.*—Looking wretched; face anxious; troubled almost constantly with vomiting; belly very tympanitic and painful; peritonitis well marked. 12 M.—Patient looking better. 6 P. M.—Is quite cheerful; stump looks better.

22*d.*—Patient in about the same condition as yesterday; stump continues to improve; ordered ol. olivæ ℥vj, acid. carbol. ʒj, to be applied over the stump.

23*d.*—Patient is again down; looks as if she could not last twenty-four hours; vomiting constantly, and extremely restless; nourished per rectum; given acid. hydrocyan. dil. m. j, and bismuth subnit. gr. v, every two hours.

24*th.*—Patient somewhat better; not so much pain or vomiting.

25*th.*—Passed a very bad night, vomiting constantly and exceedingly restless. 12 M.—Is again more comfortable; stump improving.

26*th.*—Had a very good night; very little retching or vomiting; looks much better; belly not so tense, and has very little pain.

27*th.*—Had a small injection of soap-and-water, but it did not operate; patient improving, and says she is quite comfortable.

28*th.*—Had a small movement from the bowels at 9 A. M.; is very much improved; opium diminished gradually; had a second passage from the bowels this afternoon, quite natural in appearance; has had no hypodermics to-day.

29*th.*—Patient steadily improving; looks better and feels better; ate a small piece of beefsteak to-day.

30*th.*—Had a natural movement of the bowels to-day without the help of an enema.

July 1*st.*—Still improving; appetite good; stump looks beautiful; ordered to be strapped.

2*d.*—Patient fells better than at any time since operation; occasionally has pain in the bowels, which is relieved by one drachm U. S. sol. morphia. 9 P. M.—Complains of severe tenesmus, and is given an enema of oil and warm water.

3*d.*—Had two movements of bowels after enema; stump looks well. 6 P. M.—Had a number of loose passages during the day, and looks bad; ordered opii gr. j every three hours.

4*th.*—Diarrhœa checked; patient again better.

6*th.*—Thirteen of the ligatures came away, that of the femoral among them.

7*th.*—Patient not quite so well to-day, but stump contracting; last ligature came away.

10*th.*—Patient doing well; there is slight bagging in upper part of stump; a sinus is found leading up toward the dorsum ilii; drainage-tube inserted, and compression made with pad of oakum.

12*th.*—Discharge from sinus decreasing; wound strapped.

13*th.*—Wound contracting very much.

16*th.*—Patient sat up for an hour this afternoon.

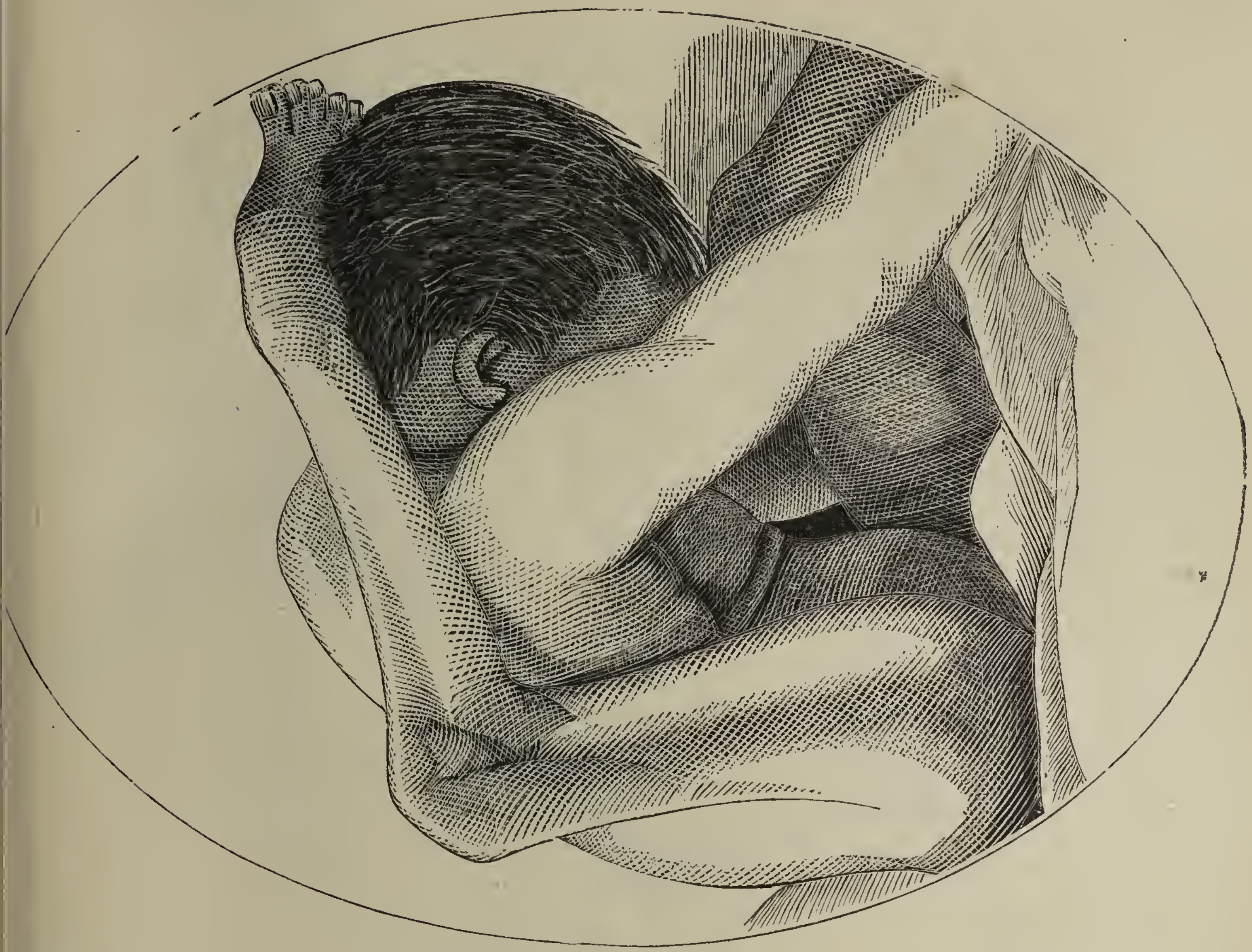
30*th.*—Steadily improving; wound contracting; sits up every day for an hour or more in the afternoon.

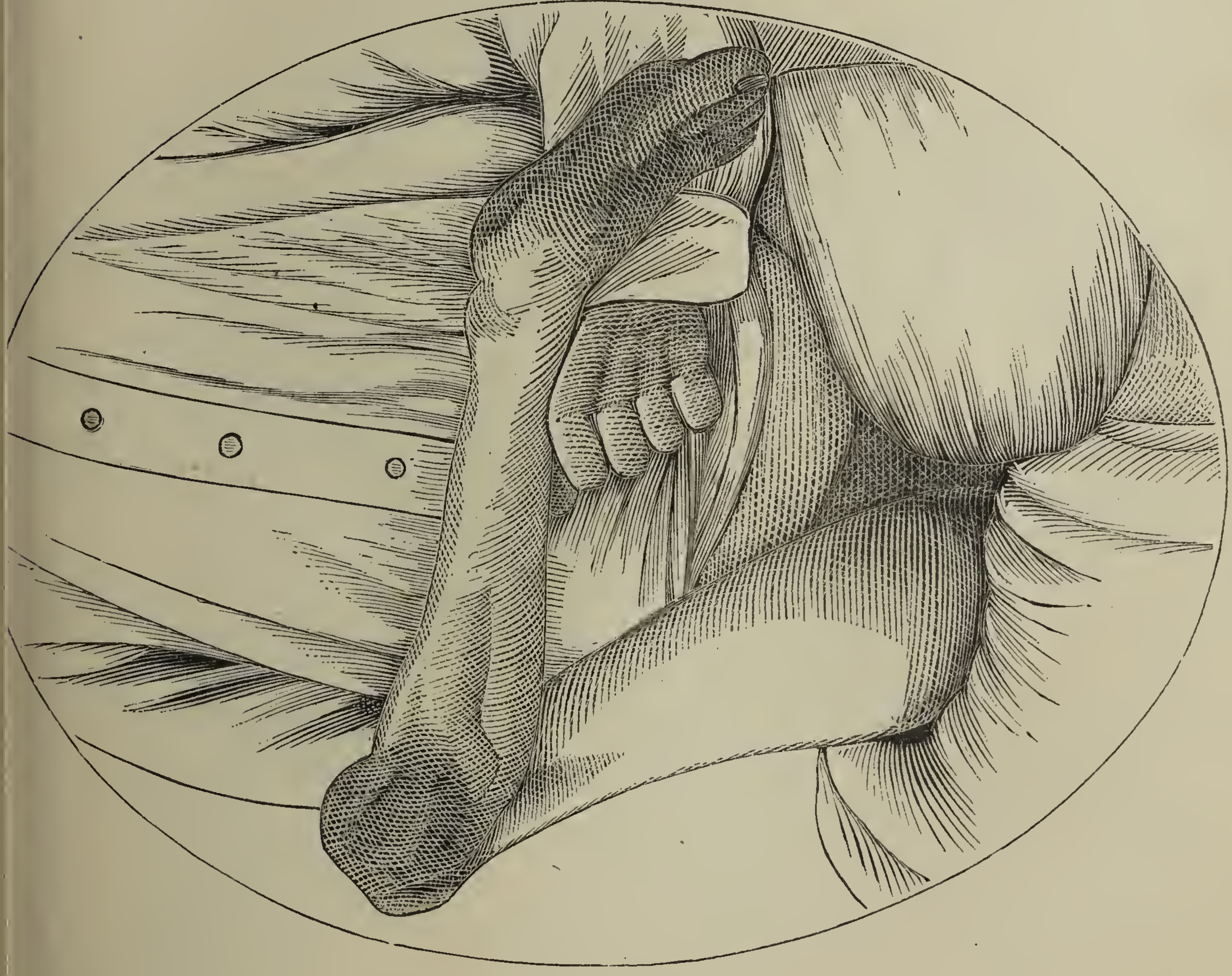
August 16*th.*—Stump doing wonderfully well, but a slight cavity left; general condition good.

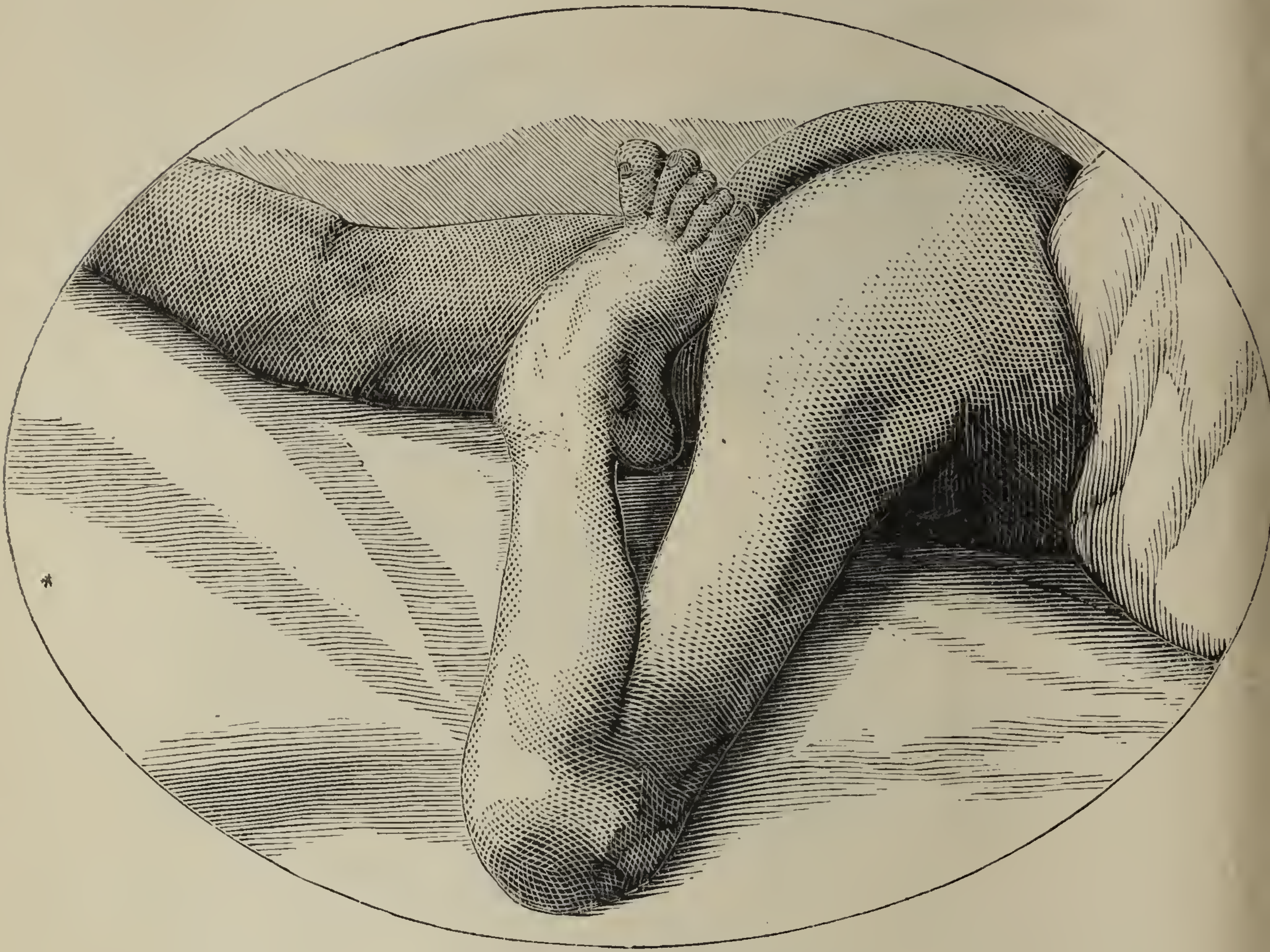
September 1*st.*—Patient almost well; goes out on pass, and walks about without much difficulty; is getting fat.

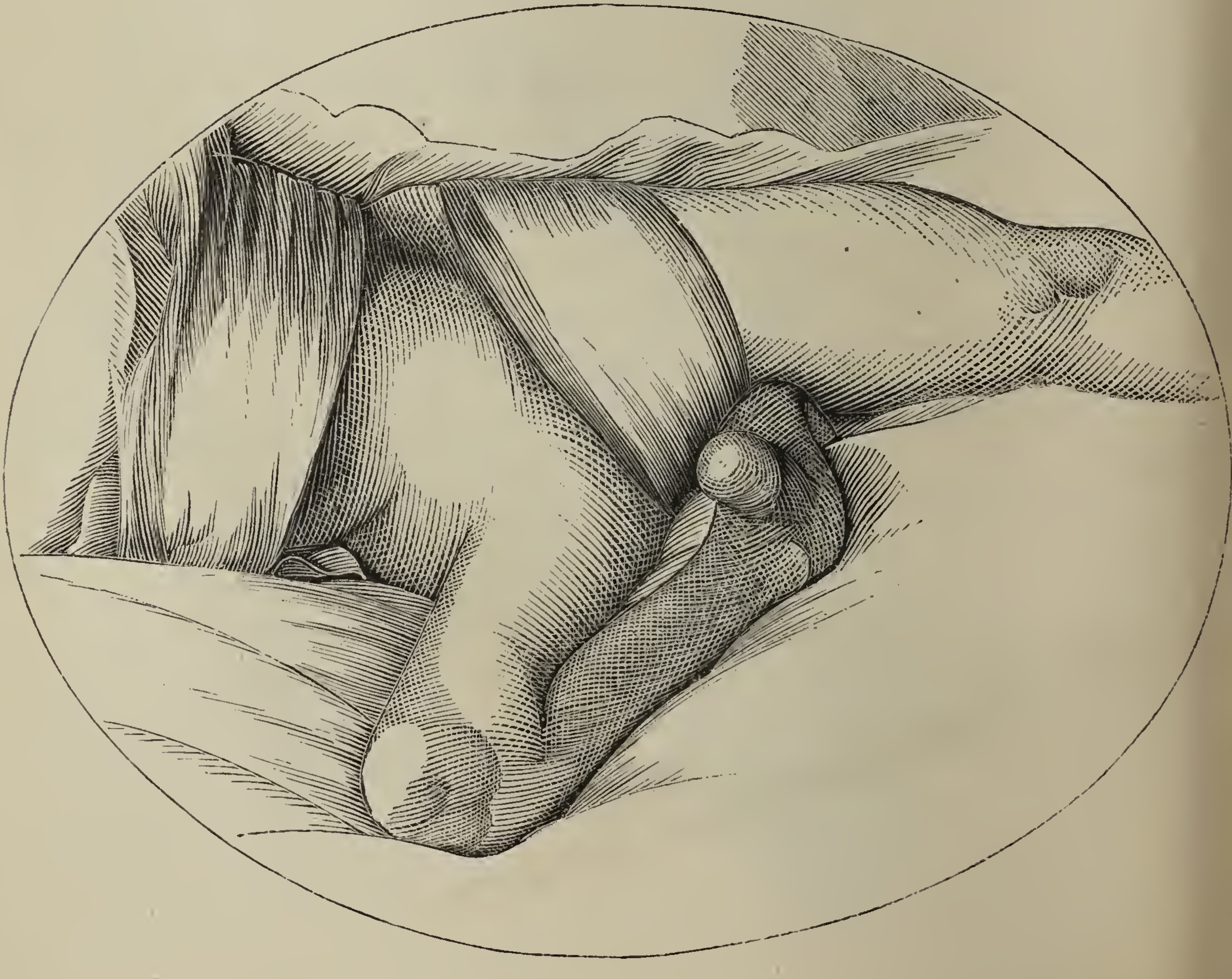
14*th.*—Patient about cured.

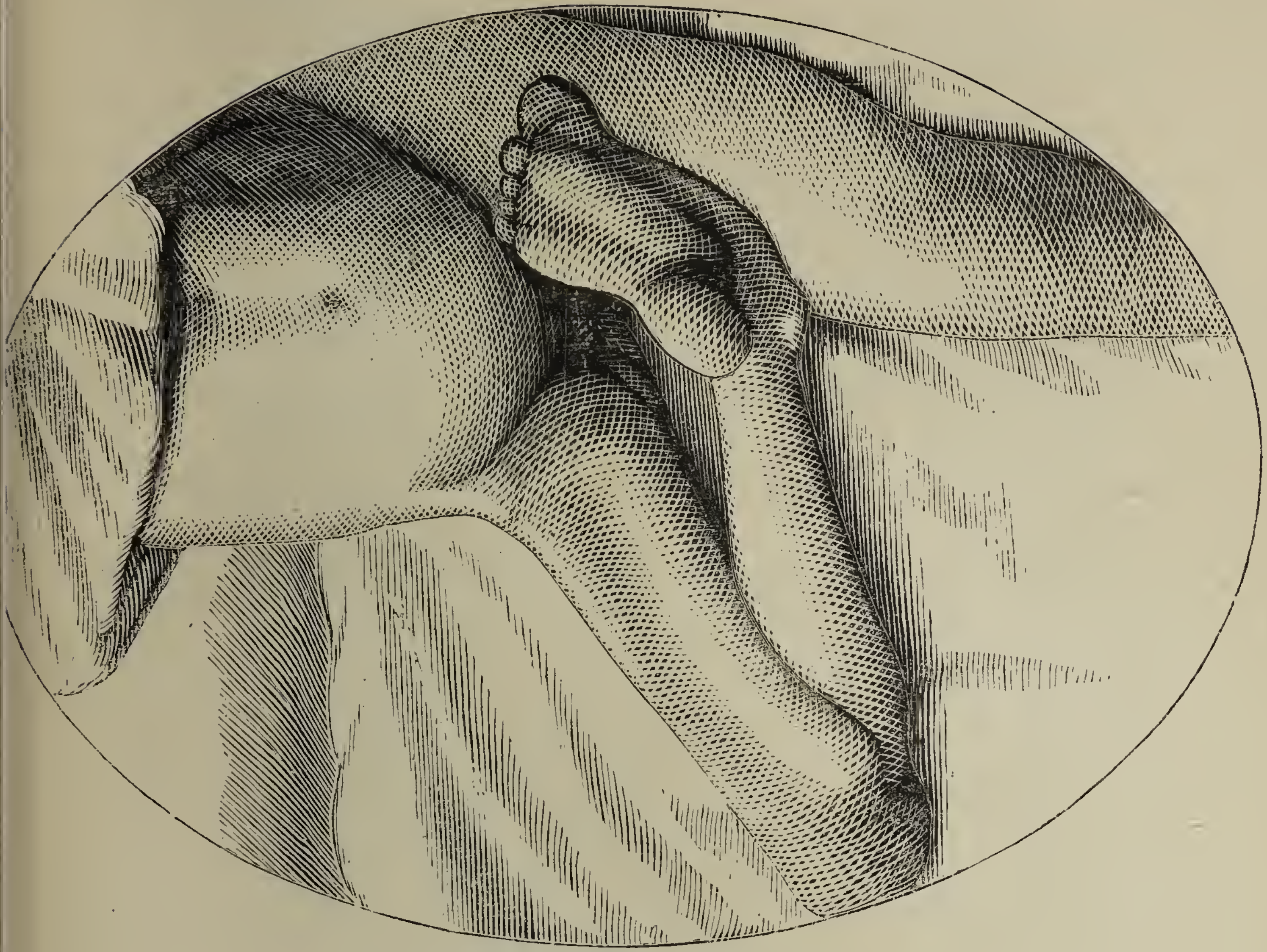
The following diagrams represent the appearance of the femur and of the patient. The photograph was taken the first week in October.

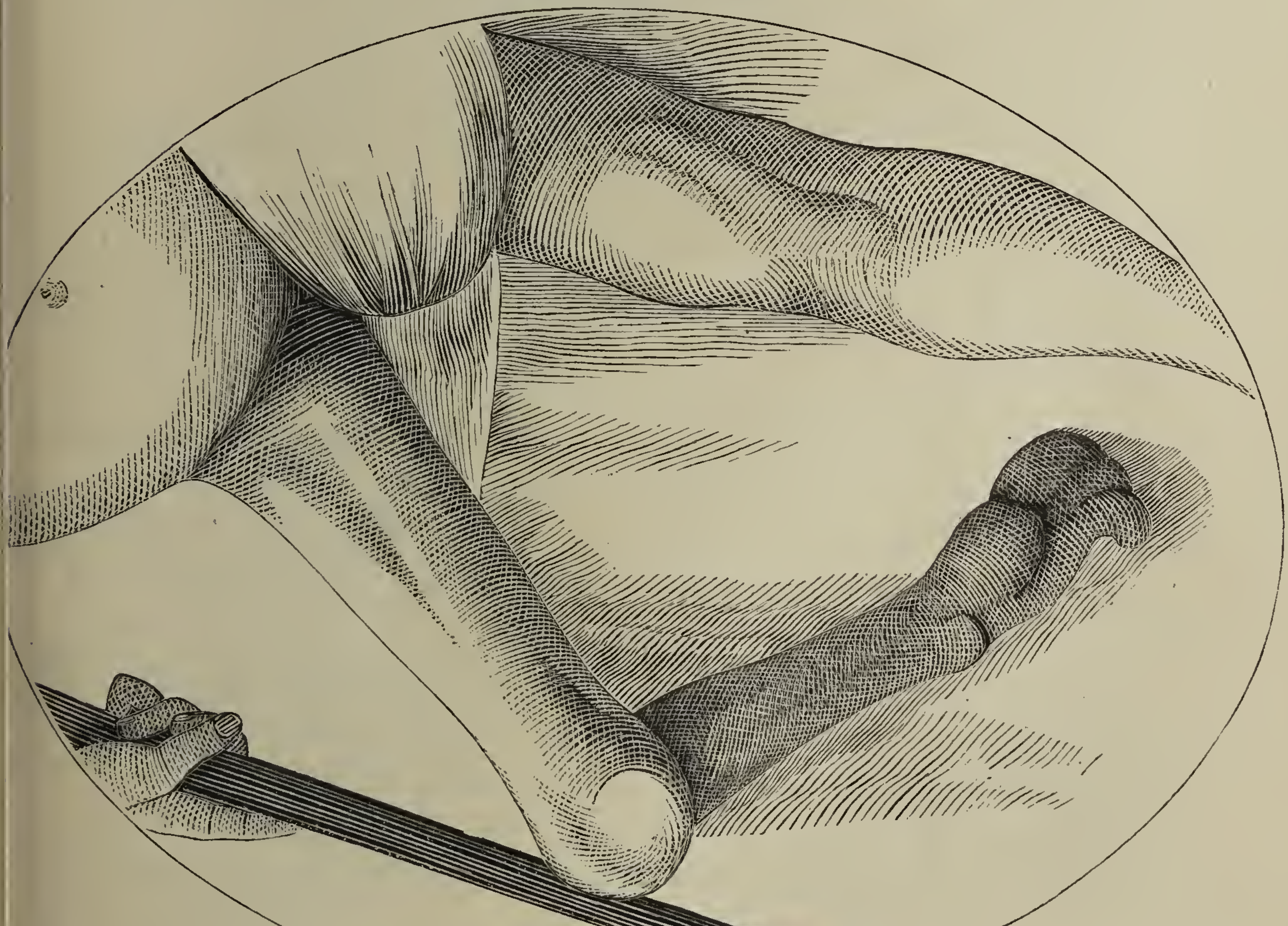












The following is a description of the growth furnished by Dr. Delafield, pathologist to the hospital:

"*Sarcoma and Chondroma of the Femur* (*Mixed Tumor*).—There is a tumor beneath the periosteum about four inches long, surrounding the upper portion of the femur, and thickest on its outer aspect. The upper portion of the shaft of the femur, beginning at a point one inch below the great trochanter, and extending downward five inches, is expanded to a diameter of three inches. Within this expanded portion of the femur is a cavity filled with gelatinous material. The walls of this cavity are formed by the walls of the shaft of the bone.

"The medullary and cancellous portions of the femur surrounding this cavity are infiltrated with new growth. At some points the shaft of the bone is nearly destroyed, at others it is quite thick. The periosteal tumor is composed partly of connective tissue, partly of cartilage with fibrous basement-substance. The myelogenic growth is principally composed of connective tissue growing in the medullary cavities, with disappearance of the adjoining bone. This new connective tissue has a good deal of fibrillated basement-substance, and a moderate number of cells, mostly round.

"In some places, instead of this we find cartilage.

"The tumor is, therefore, of composite structure, consisting partly of connective tissue and partly of cartilage."

Remarks.—It is with no little pleasure that I place upon record these two successful cases of amputation at the hip-joint; cases not only of interest because recovering from such a grave operation, but each possessing features of especial interest in a pathological view, instructive in matters to be borne in mind in the performance of such operations, and setting forth the advantages, as well as some of the dangers to be avoided, in certain manipulations which were resorted to in these cases.

It seldom falls to the lot of civil or even military surgeons to be called upon to resort to this operation, so that our experience regarding it is perhaps more limited than that pertaining to any of the major operations in surgery. Each case, therefore, whether it be successful or unsuccessful, is deserving of being fully reported, and the advantages which each method of operating may appear to possess freely given. That the risks attending upon this operation are so grave, that surgeons have frequently abandoned patients to their fate rather than run the chance of giving them what has been considered the faintest chance for life, we all well know. These risks, however, we feel convinced from the study of cases that are reported, as well as from our experience of these two cases, may now, with the careful use of those aids which an enlightened science has placed at our command, be considerably diminished.

For the most thorough, full, and comprehensive *résumé* of all that pertains to this operation, either in connection with civil or military surgery, the profession is indebted to Dr. George A. Otis, assistant surgeon and brevet lieutenant-colonel United States Army, whose researches on this subject comprise Circular No. 7 of the Surgeon-General's office.

While referring to some points of this operation, we shall avail ourselves of the labors of Dr. Otis with some freedom, as the information contained in the circular referred to is necessarily possessed by but few.

In reference to the mortality of this operation, we find, according to this circular, that in the records of British civil surgery forty-seven operations are recorded, with sixteen recoveries. In four of these cases the thigh had previously been amputated in continuity. In the case of a child two years old, the operation was done on account of injuries; in the others for disease.

In American civil practice twenty-four operations are recorded, and fifteen successful cases reported, "so large a preponderance as to lead," says Dr. Otis, "to the suspicion that all the unfortunate cases have not been published. Of the one hundred and eleven amputations at the hip-joint in civil practice recorded in the circular, forty-six succeeded and sixty-five terminated fatally, a mortality rate of 58.56. Since the publication of this work we have read the reports of several other cases, but are now unable to refer to them for the purpose of adding to these statistics. In military surgery we find the following results given: of one hundred and sixty-one cases, one hundred and forty-two died, sixteen recovered, and three are classed as doubtful.

The results of this operation, as gathered from the war of the rebellion, are most interesting, and gratifying to the pride of American surgery. Previous to this war, we believe, there had been no successful case of recovery from a primary amputation.

During the rebellion, of primary operations there were nineteen cases, of which eleven died from immediate shock, five between the second and tenth day. One was in perfect health four years after the operation ; one was alive and well two months afterward ; and one six months after the operation.

Of intermediate operations there were eighteen cases, all of which were fatal.

Of secondary operations there were nine cases and two recoveries.

Of re-amputations for diseased thigh-stumps there were seven cases, with four recoveries.

The first successful case in military surgery was by Brownrigg, an English surgeon, on December 12, 1812. It was a secondary operation, done for complications resulting from gunshot-fracture of the femur received at Merida, Spain, on December 29, 1811.

The first case in this country in which the operation was done for a gunshot-wound was by Dr. Richard K. Hoffman, in the New York City Hospital, on May 12, 1849. The patient had received a fracture of the neck of the femur from a musket-ball during the Astor Place riot. He died the following day, from shock. To Dr. Gilmore belongs the honor, we believe, of being the first among American military surgeons to have a successful case of primary amputation. The operation was done near Seven Pines, June 4, 1862.

According to the American edition of Velpeau's " Operative Surgery," the first operation done in civil practice in this country by an American was performed in Bardstown, Kentucky, August, 1806, upon a lad seventeen years of age, by Dr. Brashear. The operation appears to have been done for complications arising from fracture of the femur, and was successful. No other case followed till that of Dr. Mott's, in this city, in September, 1824.

With respect to the mortality following this operation in military practice (gunshot-wounds), the records brought forward by Dr. Otis in Circular No. 7 show that it has not been so great as generally considered. The conclusion arrived at by Dr. Otis, after a very careful study of all the cases that he found reported, was:

1. That a primary operation for traumatic causes is not uniformly fatal.

2. That there is much evidence to controvert the prevailing doctrine that disarticulation at the hip is an exception to the general rule requiring all amputations deemed indispensable to be performed immediately, the eighteen intermediate amputations performed during the rebellion having all resulted fatally.

3. It is proved that secondary amputations at the hip for necrosis of the whole of the femur, or for chronic osteomyelitis following gunshot injury, may be performed with as successful results as hip-joint amputations for other pathological causes.

4. That when, after amputations in the continuity of the thigh, the stump has become diseased, re-amputations at the hip may be done with comparative safety.

After a careful study of the cases, and facts connected with them, as brought forward in his valuable circular, we feel that these statements are not to be controverted.

On the other hand, if we confine ourselves to the study of cases that more properly come under our observation in civil practice, we notice that during late years the mortality after this, as after other major operations, has diminished. This result cannot, we think, be regarded as due to greater dexterity on the part of surgeons at the present day, but rather to the more careful selection of cases, and the appliances that have been more recently placed in our hands.

An element which must largely weigh favorably in the success of this, as of every grave operation, is the moral condition of the patient (and fortunately a patient can never fully comprehend the risks to life he must necessarily run). In my two cases it will be observed that this condition was most excellent, both being confident that they would recover, though one was told beforehand by a *cheerful friend* that she would certainly die, as none had been known to recover. Yet, in spite of a severe traumatic peritonitis, she remained plucky throughout, and suffered little or nothing from the shock of the operation.

Another great element conducive to a favorable issue, in my judgment, is the presence of thoroughly skilled assistants, as well as the greatest care in the after-treatment of the case, and salubrious surroundings of the patient. All these my patients possessed in the highest degree, and I take pleasure in publicly stating that to those who so efficiently rendered me their assistance in these cases is largely due the credit for the favorable results which followed.

In this operation a great aim of the surgeon has always been to have the patient lose as little blood as possible, and the fact that blood has been so freely lost no doubt may have been a cause of death in some of the earlier cases. For this reason the tying the femoral just below Poupart's ligament, as a preliminary step, was in some instances resorted to. Now the fear of danger from this cause has been removed. With the assistance of the abdominal tourniquet, controlling the circulation through the abdominal aorta, and the use of Esmarch's elastic bandage, less blood need be lost than we see daily shed in some comparatively trivial operations.

As far as we have been able to ascertain, these are the first two cases of amputation at the hip-joint where Esmarch's bandage was applied, and it accomplished the end for which it was used to a most eminent degree.

The tourniquet which we used was the one known as May's modification of Signoroni's, and completely controlled the aorta. This same instrument had previously worked well in two similar cases at St. Luke's Hospital by Drs. Buck and Weir. In my cases, however, it was found to be not so easily adjusted, and the compressing pad I think may have been too large. Should I be called upon to use a similar contrivance again I would give preference to the instrument which bears the name of Mr. Lister.

The use of this compressor is not without its dangers, as has been shown in some cases where it was used in the treatment of aneurism, and as we were only too forcibly reminded in our second case, from which, as a result, we had a very serious case of peritonitis, which threatened to rob us of our patient.

We are aware that the aorta has in several cases been compressed for hours (Murray's case, five hours) by a tourniquet, and we have used it ourselves in a case of aneurism, and without any serious symptoms being manifested; and while in our first case not a symptom, even of soreness, was present, our experience in the second case was such that we feel it a duty to sound an alarm, and one which we believe should not go unheeded.

The time that this instrument was in use, in our cases, we regret was not accurately noted, but compression was only kept up till the vessels in the anterior portion of the wound were tied. The time of the operation, in the first case, till the bone was disarticulated, I am told by three separate observers who timed me, was twenty-nine seconds, so the period of compression of the aorta may thus be proximately arrived at.

With the second case the compressor was around the body longer; here considerable difficulty was experienced in arranging the instrument, and, while drawing the patient down a little farther to the edge of the table, the instrument slipped, which again required its adjustment; and when I had nearly made my incision through the integument, the femoral was observed to pulsate, and the compressor had to be altered again. In a note received from Dr. Peters, on this point, he says: "I did not mark, by the watch, the exact time during which compression was kept up upon the abdominal aorta in your two cases of amputation at the hip-joint. I should say, however, that the time did not in either case exceed ten minutes." In the first case I feel convinced that the time compression was made was shorter than in the second. Our experience on this point has convinced us that compression by the tourniquet, in this operation, should not be prolonged beyond the time necessary to secure the anterior vessels, the posterior ones being comparatively small, and readily controlled by pressure from sponges till severally secured.

Sufficient has been said with respect to the elastic bandage to prove it a most valuable adjunct in this operation. With this bandage, and the tourniquet over the aorta, the loss of blood in this operation is reduced to a minimum. If we remember aright, Dr. Stephen Smith, in his collection of cases of hip-joint amputation, in the *New York Journal of Medicine*, for September, 1852, states that loss of blood at the time of operation has seldom been great, and consequently cannot be regarded as a cause of death in the cases reported. We never witnessed this operation in the hands of another but once, and on this occasion the loss of blood was truly frightful, the patient succumbing a few hours after he was placed in bed. In this case, at least, we have no doubt that the great loss of blood brought about speedy dissolution. Dr. Smith's paper also states that a reviewer in the *Dublin Quarterly* regards the great source of mortality attending this operation as due, not to loss of blood from the cut vessels, but the abstracting so much in the limb, being one-quarter or one-fifth of the entire blood in the body, while the viscera still continue to act as though none were removed. Should this be the great cause of mortality, Esmarch's bandage certainly does away with it.

As to the shock which the system necessarily sustains from the gravity of the operation itself, it has been sought to be lessened by a rapid execution of the operation. We cannot, however, regard this as a valid theory. With the bandage and the compressor there can be no call for great haste; and, with great rapidity in operating, we doubt if shock is lessened, or if in any way it is of much service to the patient.

We cannot help thinking that the great thing the patient has primarily to contend against is the loss of blood, and that it is this that is the great element in causing the shock, from which it is so often said, in this operation, the patients never rallied. All have noticed, in amputations at the upper portion of the thigh, that immediately after the operation the shock is often very great; the same is true in amputations at the shoulder-joint. This shock we have found may be very greatly diminished by giving subcutaneously an injection of a half to a drachm of brandy or whiskey immediately upon severing the limb from the body. This was used also in both my cases, and it was noticed with surprise, by many who were present, how slight was the shock the patients experienced.

After the vessels have been secured we believe it advisable to remove all the capsular ligament which may remain around the acetabulum, as well as the ligamentum teres, and the fat that is usually found in the acetabulum. It will expedite healing of the wound and prevent the formation of sinuses, if not of necrosis of the acetabulum.

In respect to the various modes of operating, but little need be said, the surgeon too often having to do his operation according to circumstances. All, however, will be likely to fall under some variety of the flap or circular method. Probably the majority, were they able to select any operation, would give preference to the flap in this amputation. Such, indeed, had been my own predilection before I came to operate on the living subject, and that was the one I was accustomed to show to students, and had so frequently rehearsed upon the cadaver.

In my first case, either operation might readily have been selected, but at the solicitation of some of my friends I was induced to make use of what is usually known as the circular, or rather that of Alanson. So pleased was I with the ease with which it was performed, and the beauty of the resultant stump, that when I came to my second case, which perhaps did not, on account of the presence of the old wound and unhealthy tissue, readily admit of any other, I most cheerfully resorted to it.

The appearance of both these stumps, as shown in the plates, certainly speaks in its favor, and they contrast most favorably with any picture of such stumps that it has been my fortune to examine. The first case, certainly, is everything that a surgeon or a patient could desire.

Another great feature in its favor, it appears to me, is the ease with which it is dressed and irrigated without disturbing the patient to such a degree as would be necessary in the flap-operation. Again, the vessels, not being so obliquely cut, are perhaps the more readily taken up; and by this method, also, there probably remains a smaller suppurating surface; and, finally, if during the operation it be discovered that the bone may with impunity be severed just below or at the trochanters, it can readily be accomplished without any detriment to the patient; such would not be the case with the method by flaps. Hence this mode of operating, I think, strongly commends itself in cases of gunshot, railroad, or kindred injuries. While thus speaking so favorably of this operation I do not wish to be understood as saying that it should be resorted to in every case, under all circumstances, for I believe a surgeon should never be exclusively wedded to one method of operating. My experience, however, has been such as strongly predisposes me in its favor.

Among those who not only advocated but resorted to this method, I find the names of Kerr, Abernethy, Cole, S. Cooper, Graefe, Krimer, Jaeger, Veitch, Larrey, Lacouchie, R. B. Bontecou, Blackman, and Compton.

In Circular No. 7, page 86, some interesting facts are mentioned in reference to the general condition of patients after this operation, in respect to the recovery of their strength, and tendency to the accumulation of fat. Four of the patients, who underwent this operation in the rebellion, have greatly increased in weight, one especially (Ulmer), who at the time of writing this circular was employed in a publishing-house in Philadelphia, weighed twenty-five pounds more than his average weight before he lost his limb. This rule, it states, is reversed in primary amputations for traumatic causes, after which patients commonly become emaciated rapidly, and long remain in a state of feebleness, from which they recover very gradually. In one of the cases mentioned, though four years have elapsed since his recovery from a primary amputation, he still writes that his health is delicate, and that he can do but little toward earning a maintenance.

In both my cases the restoration to health and strength has been rapid. Both have gained in weight, and especially in the woman is it very marked. She states that she never was so fat or felt so well in her life; and neither can be said to have led a very sedentary life since the operation.

In conclusion, after a somewhat careful study of this operation, we feel that in very many instances the great mortality formerly attendant upon it can be greatly diminished by employing all those resources which an enlightened science has placed at our command. A perusal of the cases recorded, I think, shows that the mortality has been steadily diminishing, and perhaps the day may not be far distant when the results of this operation may be made as favorable as those of amputation in the upper portion of the thigh.

Art. II.—*Paracentesis of the Pericardium, with an Analysis of Forty-one Cases.* By John B. Roberts, M. D., Resident Surgeon Pennsylvania Hospital, Philadelphia.

When tapping the pleural cavity for the removal of effused fluid was first proposed by Bowditch, as an operation to be considered in cases of empyema or chronic pleuritis, it was looked upon with great suspicion, and was only undertaken after the patient had been allowed to go down-hill under the administration of diuretics, hydragogues, and other inefficacious remedies, until he had one foot literally in the grave. Now, however, thoracentesis is no longer an experiment, but is resorted to by every one, if the effusion be not easily diminished by internal medication. Paracentesis of the pericardium, unfortunately, holds at the present time the position formerly occupied by thoracentesis, though it may be that in time it will come to be as common a procedure as the latter now is.

The operation was proposed as far back as 1649, by Riolan,[1] but surgeons were timid in attempting it, because of the difficulty in making a correct diagnosis, and on account of the supposed danger of wounding an organ so vital as the heart. The obscurity involving thoracic diseases before the application of auscultation and percussion to the unraveling of their mysteries, was doubtless the chief cause; for Van Swieten truly says, "Tentandum esse potius anceps remedium quam nullum." It is likely, therefore, that the doubtful remedy would have been tried, had the surgeon been certain that the presence of large pericardial effusion was the cause of the threatening symptoms. The feeling in regard to the operation is well shown by Mérat,[2] who says that when the report of two successful operations by Romero, of Barcelona, was presented to the Faculty of Medicine at Paris, they did not dare to have it printed in their "Transactions," lest this most delicate operation should thus be sanctioned, and others be induced to undertake it.

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[1] Trousseau's "Clinical Medicine," iii., p. 374.

[2] "Dictionnaire des Sciences Médicales," Paris, 1819, xl., p. 372.

Trousseau gives Schuh the credit of being the first one to actually perform the operation, in 1840; but as Romero's cases are mentioned by Mérat in 1819, and as Trousseau mentions Romero's without expressing any doubt as to their authenticity, the latter must have priority by many years. Karawagen and Jowett were also earlier than Schuh. The following table gives all the authentic cases that I have been able to find. I have found a few others mentioned, of which no particulars were given, and have therefore rejected them.

OPERATOR.	Date.	Sex and Age.	Mode and Site of Operation.	Recovery.	Death.	Time that Patient survived the Operation.	REMARKS.	Complication.	REFERENCE.
1 Romero.	Before 1819	M. 25	Bistoury and scissors. 5th interspace.	1					Dict. des Sciences Médicales, Paris, 1819, xl., 371.
2 Romero.	Do.	M. 37	Do.	1					Do.
3 Romero.	Do.	M. 45	Do.		1				Do.
4 Jowett.	1827	F. 14	Not stated.		?	Life prolonged.	Hope of recovery.		Günther, Blutigen Operationen, iv., 3, 102.
5 Karawagen.	1839	M.	Trocar. 5th interspace.	1			Hæmorrhagic scorbutic pericarditis. Drew off Oiijss. Quite well five months later.	Scurvy.	British and Foreign Medical Review, July, 1841.
6 Karawagen.	1839	M.	Do.?		1	Life was prolonged.	Scorbutic pericarditis.	Scurvy.	Do.
7 Schuh.	1840	F. 24	Trocar. 4th interspace.		1	160 days.	Tapped first in third interspace. Case was one of encephaloid disease of thoracic viscera.	Cancer.	Archives Générales de Médecine, November, 1854.
8 Kyber.	1840	M.	Trocar.[1] 4th interspace.	1			Scorbutic pericarditis.	Scurvy.	Monthly Retrospect of Medical Sciences, Edinburgh, March, 1848, i., 35.
9 Heger.	1841	M. 19	Trocar. 5th interspace.		1	69 days.	Tapped twice. 1,500 grammes and 400 grammes. Drainage-tube left in six hours.	Phthisis.	Archives Générales de Médecine, November, 1854.
10 Schönberg.	1842	M.	Trocar.	1			Hæmorrhagic effusion. Removed 5 lbs. Recovered in six weeks.	Scurvy?	Günther, Blutigen Operationen, iv., 3, 102.
11 Kyber.	1843	M.	Trocar. 4th interspace.	1			Scorbutic pericarditis. Was living one and a half year later.	Scurvy.	Do., and also Monthly Retrospect of Medical Sciences, March, 1848, i., p. 35.
12 Kyber.	1845	M.	Do.	1			Do.		Do.
13 Kyber.	1845	M.	Do.		1	17 days.	Tapped twice. Scorbutic pericarditis.	Scurvy.	Do.
14 Kyber.	184–	M.	Do.	1			Scorbutic pericarditis.	Scurvy.	Do.
15 J. C. Warren.	1852	F. 35	Incision and trocar. 6th interspace.	1			Removed f. oz. v. Left hospital in a few weeks.		H. H. Smith's Surgery, ii., 358.

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[1] Sometimes Kyber adapted a syringe to the trocar.

OPERATOR.	Date.	Sex and Age.	Mode and Site of Operation.	Recovery.	Death.	Time that Patient survived the Operation.	REMARKS.	Complication.	REFERENCE.
16 Jobert.	1854	M. 16	Incision and trocar. 5th interspace.	1			Removed 400 grammes. Tapped pleura also for effusion. Under notice three months.	Phthisis.	Trousseau, Clinical Medicine, iii., 370.
17 Béhier.	1854	F. 22	Trocar. 6th interspace.		1	26 days.	Removed 250 grammes. Tapped previously in seventh interspace; no fluid obtained.	Died of pneumonia.	Archives Générales de Médecine, November, 1854.
18 Aran.	1855	M. 23	Incision and trocar. 5th interspace.	1			Tapped twice. F. oz. xxviij and f. oz. xlix. Injected iodine and iodide of potassium.	Phthisis.	Trousseau, Clinical Medicine, iii., 386.
19 Aran.			Do.	1					Id., iii., 391.
20 Aran.			Not stated.	1					Id., iii., 391.
21 Bowditch.	1856		Incision.		1				Id., iii., 391.
22 Skoda.			Not stated.		1				Id., iii., 383.
23 Vernay.	1855	M. 23	Trocar. 5th interspace.		1	21 days.	Tapped twice. First, 500 grammes; second, three days later, 400 grammes. Tapped abdomen for ascites.	Valvular disease.	Half-Yearly Abstract of the Medical Sciences, xxv., p. 95.
24 Trousseau.	1856	M. 27	Incision.		1	5 days.	Removed f. oz. iij. Tapped pleura accidently at same time.	Pleurisy and phthisis.	Trousseau, Clinical Medicine, iii., 364.
25 Wilczkowski.	1857				1	6 hours.	Hæmorrhagic pericarditis.	Scurvy ?	Günther, Blutigen Operationen, iv., 3, 102.
26 Wheelhouse.	1866	M. 26	Trocar. 4th interspace.	1			Removed f. oz. iij. Living twenty-three months later. Acute rheumatic pericarditis.		British Medical Journal, October 10, 1868.
27 Roger.		F. 12	Trocar. 6th interspace.		1	1 day.	Removed 780 grammes.	Myocarditis and heart-clot.	Boston Medical and Surgical Journal, 1869, p. 85.
28 Mader.	1868?	F. 68	Aspiration. 3d interspace.		1	15 days.	Tapped twice. First, f. oz. ij. Second time at right of sternum.	Pleurisy.	Half-Yearly Abstract Medical Sciences, xlviii., p. 25.
29 Roger.	1868	F. 11	Trocar. 5th interspace.		1	30 days.	Tapped twice. First, 100 grammes blood; second time, 500 grammes serum.	Pulmonary disease.	Half-Yearly Abstract Medical Sciences, xlix., p. 79.
30 Teale.	1869	F. 27	Trocar. 4th interspace.		1	Few hours.	Tapped twice. Removed f. oz. v and f. oz. vj.	Phthisis ?	Lancet, June 12, 1869.

OPERATOR.	Date.	Sex and Age.	Mode and Site of Operation.	Recovery.	Death.	Time that Patient survived the Operation.	REMARKS.	Complication.	REFERENCE.
31 Duncan.		M. boy.	Trocar.		1	Few hours.			Edinburgh Medical Journal, October, 1872, p. 376.
32 Champouillon.	·	M.		1			Complete cure (Roger).		Gazette Hebdom. de Méd. et de Chirur., November 5, 1875.
33 Chairou.	1872	M. 23	Aspiration. 5th interspace.	1			1,000 grammes. Tapped pleura 1,430 grammes. Walked about and had recovered, but died in forty-nine days of diarrhœa and phthisis.	Diarrhœa and phthisis.	Do.
34 Maclaren.	1872	M. 27	Incision and trocar. 5th interspace.		1	6 days.	Removed f. oz. xxxv.	Pleurisy.	Edinburgh Medical Journal, June, 1872.
35 Heath.	1873	M. 6	Aspiration. 3d interspace.		1	50 days.	Tapped pericardium twice. F. oz. iij¾ and f. oz. vj. Last time in fourth interspace. Tapped abdomen twice.	Phthisis and tubercular peritonitis.	Practitioner, xi., 265.
36 Saundby.	1874	M. 13	Aspiration. 4th interspace.		1	Few hours.	Removed pus f. oz. xxx; probably from rupture of pulmonary abscess.	Pleurisy and abscess of lung.	Edinburgh Medical Journal, March, 1875.
37 Gooch.	1874	M. 13	Aspiration. 5th interspace.		1	38 days.	Tapped six times. Purulent fluid. F. oz. xxj; f. oz. xxxv; f. oz. lx—iodine injected; f. oz. l—iodine; f. oz. xxx; f. oz. xx—iodine.	Peritonitis.	British Medical Journal, June 19, 1875.
38 Steele.	1874		Aspiration.	1			Acute rheumatic pericarditis.		British Medical Journal, October 24, 1874.
39 Bartleet.	1874	M. 20	Aspiration. 4th interspace.	1			Acute rheumatic pericarditis. Removed f. oz. xiv. Walking about in twenty-seven days.		Lancet, December 19, 1874.
40 Elliott.	1875	M. 60	Aspiration. 5th interspace.	1			History of rheumatic attacks. Removed f. oz. xlij. Left hospital in nine weeks as out-patient.		Lancet, January 8, 1876.
41 Nixon.	1876	M. 20	Aspiration. 5th interspace.		1	6 days.	Removed f. oz. iijss.	Pleurisy.	Dublin Journal of Medical Sciences, June 1, 1876.

Paracentesis of the pericardium is indicated when the effusion is large and threatens life, refusing to undergo absorption from the administration of the ordinary remedies. How long we are to wait in given cases, before undertaking operative interference, is a question yet to be determined.

Roger says the operation is not indicated in cases where the effusion results from a general condition that leaves no chance of cure, as in hæmorrhagic scorbutic pericarditis, when it will be soon reproduced as in Bright's disease, or when the patient is the subject of purulent infection. He adds: "Paracentesis of the pericardium remains always an operation of urgency; contraindicated in a general way every time we have reason to suspect a case complicated with some incurable lesion, applicable especially to large acute and chronic effusions of rheumatism and to chronic effusions of which the diathetic nature is not evident. . . . In the immense majority of cases it is only palliative."[1] Admit that the operation is only palliative, if it can be shown that no immediate evil results from its performance (which can be done), should the surgeon hesitate because the patient may die in a few days or weeks of some concomitant disorder? Who would decline to tap an immensely distended abdomen because the patient suffered at the time from incurable hepatic disease, or to draw the fluid from the pleura because the patient was tuberculous? It would seem that Clifford Allbutt, for whom Wheelhouse and Teale each operated, took the most reasonable view of the expediency of the operation. In speaking of Heaton's objection that "in the majority of cases I believe the result has been unfavorable,"[2] he argues that "unfavorable" must mean that the operation itself caused death, hastened the fatal issue, or augmented the suffering of the patient while doing no good whatsoever.[3]

From viewing the preceding table of cases it will be seen that these results have not followed paracentesis pericardii. Therefore, the operation is not open to this criticism, but prolongs life and gives much relief even in those cases where the patient soon dies.

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[1] *Gazette Hebdomadaire de Médecine et de Chirurgie*, November 5, 1875.

[2] *British Medical Journal*, July 2, 1870.

[3] *British Medical Journal*, July 9, 1870, p. 32.

Various methods were used by the early operators; some thrusting a trocar through the tissues directly into the sac, while others, and Trousseau among them, preferred cutting down, layer by layer, until the pericardium was uncovered, and then puncturing it. Others still even proposed trephining the sternum over the cardiac region, in order to give access to the distended covering of the heart. At the present time, suction, or aspiration as the term now is, is so universally employed for tapping the cavities of the body, and its superiority over the simple trocar and canula is so well established, that there is no longer question as to the most favorable method of tapping the pericardium. The needle used is very small, and therefore makes simply a small puncture, doing little harm should the instrument wound the lung; no air comes in contact with the intrathoracic viscera, and hence there is as little disturbance as possible. And there is, moreover, no opportunity for the pericardial fluid to leak into the pleural cavity.

As to the point of puncture, opinions differ. Roger advises[1] opening the pericardium in the fifth interspace, about midway between the left nipple and the sternum, but a little nearer the former, penetrating directly backward. Dieulafoy[2] recommends the same intercostal space about three-quarters of an inch from the edge of the sternum, because, from experiments in the dead subject, he finds that the maximum distention takes place about the fourth interspace; and that here, and at the fifth interspace, the lung slopes away from the median line. Out of thirty-four points mentioned in the table, this was the point chosen in fifteen cases. Of course, the surgeon should determine, by accurate percussion and auscultation in every case, that point where there exists the greatest amount of fluid between the surface and the heart, and introduce the needle there.

The dangers to be most dreaded are wounding the internal mammary artery, and striking the heart as it is thrown forward by the systole. The artery is situated a quarter or half an inch from the edge of the sternum, and is avoided by tapping at the point recommended by Roger and Dieulafoy. Injury to the heart could be most certainly avoided by having the exhausted air-chamber of the aspirator attached to the needle as soon as it was buried beneath the skin; then, to have the point of the needle sheathed by an appropriate apparatus as soon as it entered the pericardial sac, which would be immediately shown by the flow of fluid into the vacuum of the syringe or air-chamber. Fitch's "dome-shaped trocar," in which the blunt fenestrated canula slides *within* the penetrating trocar, would answer, I should think, if adapted to the aspirator admirably.[1] The fact is, however, that in ordinary cases, where the effusion is sufficient to warrant tapping, there is not so much danger of wounding the heart as was formerly supposed. And, moreover, recent observation has proved that the heart can be punctured with a certain degree of impunity. Eve reports a case where recovery followed the extraction of a large needle from the heart three days after the injury.[2] Dr. Steiner, of Vienna, has shown that needles may be quite safely introduced into either ventricle, provided they are withdrawn at once.[3] Wounds of the auricle, however, are not so innocuous.

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[1] *Loc. cit.*

[2] *Lancet*, December 28, 1872, from *La France Médicale*, December 17, 1872.

In this connection, a most remarkable case, reported in the "Transactions of the Clinical Society of London,"[4] may be mentioned. A woman, aged twenty-seven years, had pleuro-pneumonia, and signs of large pericardial effusion; as she was almost moribund, a trocar was introduced at the fourth intercostal space, but, to the dismay of the surgeon, dark venous blood escaped. The instrument was immediately withdrawn, and the patient, instead of showing unfavorable symptoms, seemed to be relieved of the distress and dyspnœa. She died about four weeks later of a complication of diseases; and the autopsy showed dilatation and valvular disease of the heart, but no effusion. This is a valuable case in regard to the risk of striking the heart, for, although the right ventricle was here tapped in error, and one drachm of blood withdrawn, the patient exhibited no shock or distress. On the contrary, the abstraction of blood seemed to relieve the distended heart much better than phlebotomy would have done, as was evinced by the diminution of threatening symptoms, and the decrease of area of percussion dullness. A similar accident occurred to Baizeau, and also to Roger,[1] the former abstracting 100, the latter 220 grammes of blood from the ventricle, without doing any harm, for both these cases also survived the operation.

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[1] *See* "Proceedings of International Medical Congress," *Philadelphia Medical Times*, September 16, 1876.

[2] "Remarkable Cases in Surgery," p. 223.

[3] *Medical Times and Gazette*, May, 1873, p. 492.

[4] Vol. viii., p. 169.

Some have objected that adhesion of the visceral and parietal pericardium may occur after paracentesis, and thus induce valvular disease, or pathological changes in the cavities of the heart.[2] Kyber took a diametrically opposite view, and considered that adhesions, instead of being feared, are to be looked upon as the condition of radical cure, as was proved by three autopsies which he made of patients dying of other diseases long after paracentesis had been performed.[3] Probably Aran had a similar view when he injected iodine into the sac after evacuating the fluid; at any rate, his case was successful. That the production of adhesions is not an objection of sufficient force to bear much against the advisability of paracentesis in appropriate cases, is shown by the long discussion that has taken place between authorities regarding the agency or non-agency of pericardial adhesions in inducing cardiac disease.[4]

Again, it has been objected that the fluid reaccumulates with greater rapidity after tapping, and that it has a tendency to become purulent. We have not sufficient data to answer this question in the affirmative or negative, but I do not see that the objection is of any more value than in pleurisy, where, if the fluid does reaccumulate, the trocar is introduced again and again, and stimulating injections employed until cure results. In Frerich's ward, where thoracentesis is frequently performed, no serous exudation becomes purulent if the instrument be disinfected and the air excluded from the pleural cavity.[1] Why should we, therefore, expect a different result in pericarditis? If purulent pericarditis did occur, a drainage-tube might even be used. Examination of the accompanying table will show that subsequent operations are no more dangerous than primary ones. Omitting the cases of Schuh and Béhier, because in them the first tapping failed to give exit to the fluid, and a second operation was immediately performed, we find that in eight cases paracentesis was done twice, while in Gooch's case it was performed six different times. In this last case the patient lived thirty-eight days after the first operation, or ten days after the sixth, and finally died, having peritonitis in addition to the pericarditis. The shortest interval between the original operation and the second was in Teale's case, where it was demanded in two days. In other cases, the period was as long as twelve, fourteen and seventeen days (Kyber's).

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[1] *Boston Medical and Surgical Journal*, October 12, 1876.

[2] *Gazette Hebdomadaire de Médecine et de Chirurgie*, November 5, 1875.

[3] *Monthly Retrospect of Medical Sciences*, Edinburgh, March, 1848, and also Guenther, "Blutigen Operationne," IV., iii.

[4] Hayden's "Diseases of the Heart and Aorta," vol. i., pp. 345–366.

But to return to the questions: Does paracentesis itself cause rapid reaccumulation? and, if so, is the second operation more dangerous than the first? In the first place, there are eighteen cases reported where recovery followed paracentesis without a second operation being necessitated, and in the nine cases where it was required there was additional disease in every case. Secondly, in the nine cases of repeated tapping, eight died; but in all of them there was either disease of the heart or lungs, as in six, or scurvy or peritonitis, as in two cases; and, indeed, the one patient who recovered had phthisis (Aran's). These statistics seem to show pretty conclusively that repeated tapping is not demanded as a sequela of first paracentesis, but is required because the patient's general condition causes a spontaneous reaccumulation, which would occur if the effusion was suddenly removed by any other method that did not at the same time improve his diathesis.

They also militate against the idea that there is decided risk in tapping more than once, for, though it is not proved that these patients died of the accompanying disease, yet it is shown that the fatal cases, where repeated paracentesis was performed, were decidedly unfavorable cases. Therefore, the evidence is of value, though it be negative. More positive evidence is the fact that, in six of the eight fatal cases of repeated tapping, the time of survival after the last operation was one day or more, the average being twenty-four and a third. In only two cases did the patient die in a few hours after the pericardial effusion was withdrawn for the second time.

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[1] *Medical and Surgical Reporter*, September 30, 1876, p. 274.

We have now seen the indications for performing paracentesis pericardii, have selected the method and point of operation, considered the dangers to be avoided, and the objections to be answered; and there only remains to discuss the results, etc., of the operation.

In the table there are forty-one cases recorded. Of these there were:

Males	27	cases.
Females	8	"
Sex not mentioned	6	"

In regard to the age of the patients, there were:

Under twenty years (inclusive)	11	cases.
Over twenty years	15	"
Age not given	15	"

The greatest age at which the operation was done was sixty-eight years; the patient being tapped twice, the last time at right of sternum. She died fifteen days after first tapping. The youngest patient was only six years old; he had the pericardium and peritoneum each tapped twice, but died fifty days after first operation.

The most important item, however, is the success of the procedure, which was as follows:

Recoveries	19
Hope of recovery (probably death)	1
Death	21
Total	41

Counting the one case where there is no final result given as a fatal case, we have yet 46.34 per cent. as the average of recovery, or 53.66 percentage of mortality. This average is certainly a good one, when the almost always fatal result of let-alone treatment is remembered. If the fluid be not evacuated, the quantity increases until the pressure on, and the maceration of, the heart, as well as the injurious tension to which the surrounding intrathoracic structures are subjected, cause the death of the patient after most harassing symptoms, with as much, perhaps, as five pints of pus in the enormously-distended sac.[1]

Barthez gives the mortality of tracheotomy in croup (an accepted operation) in the St.-Eugénie Hospital at about 66⅔ per cent.[2] Why, then, should one hesitate to tap the pericardium in large chronic effusions, when it is seen that its mortality is only 53⅔ per cent.? And, certainly, the danger of hesitating is as great as in croup. So it is, however. A surgeon who would open a child's trachea for croup without the least hesitation, would in many cases let that child's father die from pericarditis with effusion, because he dare not tap the pericardium, and thus remove the agent which was preventing the proper oxygenation of blood as effectually as the membrane in the child's larynx.

This mortality (53.66 per cent.) in paracentesis pericardii is inclusive of all cases found in the table; but it must be recollected that very many of the cases had serious diseases complicating the pericardial effusion.

Among the deaths, there suffered from other concomitant and often incurable disease, seventeen cases. There was no other disease, or at least none mentioned, in five cases. This would make only five cases of death from the cardiac dropsy alone in a series of forty-one cases, which gives the astonishingly low mortality of 12.19 per cent.

Let us look, however, at the results of the operation since the year 1850, for the cases before that time are not fully reported. Since 1850 there are in the table twenty-seven cases;

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[1] *See* case in *Boston Medical and Surgical Journal*, February, 1866, p. 29.

[2] Aitkin's "Practice of Medicine," American edition, vol. ii., p. 998.

of which there was recovery (although two had phthisis) in eleven cases; and of which there was death in sixteen cases. Of the sixteen patients who died there was additional disease in thirteen cases, leaving only three cases where the patient seemed to succumb from the pericarditis alone. In other words, taking the recoveries into consideration, there were out of fourteen cases of pericardial effusion, where other disease did not *act* as a complication, eleven recoveries and three deaths.

This gives us a mortality of 21.43 per cent., which, although not as low as that given by the whole number of cases in the table, after throwing out the deaths in complicated cases, yet is as low as the mortality in many other operative procedures, which are considered perfectly justifiable. It may be objected that in these operations there is no election: the surgeon must operate, or the patient die. My answer is, "So it is in cases of large chronic pericardial effusion."

By looking over the table it will be seen that the time of survival after tapping is given in nineteen cases.

Death occurred less than a day after operation in four cases; time not accurately given (life prolonged), in two cases.

In the remaining thirteen cases the longest time was 160 days; the shortest time one day; the average 34.15 days. That is to say, if patients survive more than a day, the average time added to their life after tapping is 34.15 days.

Surely here is a record which should add much force to this plea for the adoption of paracentesis pericardii into the family of accepted operations.

Some authors have spoken of paracentesis of the pericardium with a sneer, as merely a palliative procedure. Well, suppose it is palliative. Do not we excise carcinomatous breasts and tongues for palliation? Doesn't every one tap ascitic bellies, when cirrhotic liver exists, for palliation? Who can estimate the value of thirty days added to the life of a Bismarck; or the numberless political convulsions that would never have occurred had a month been added to the life of a Cæsar?

Especially has success attended the paracentesis of the pericardium in acute rheumatic pericardial effusions, as in the cases of Wheelhouse, in 1866, Steele, and Bartleet. When the disease becomes chronic, a perfect cure is almost hopeless, even irrespective of the distress produced by the quantity of the effusion. By the long continuance of the inflammation, the maceration of the heart, and the pressure of the distended sac, the tissues have assumed new pathological characters; and one might as well expect to have a perfect joint after chronic hip-disease as perfect hearts after chronic pericarditis.

The time will doubtless come when we shall throw aside our fears, and consider him negligent who does not propose paracentesis pericardii before symptoms become imminent, and employ it as a recognized therapeutic measure in all acute cardiac dropsies which do not rapidly respond to internal medication.

Art. III.—*A New Inhaler for Ether.* By P. C. Barker, M. D., Morristown, N. J.

There are many practitioners whose practice lies mainly in the domain of surgery, who always administer ether with the towel-cone. I know of several prominent surgeons who use this method exclusively. The reasons given for this preference over the various forms of inhalers already in use are mainly as follows: The materials for making this inhaler are always at hand; towels and newspapers are to be found in every house; and if a suitable sponge is not to be had, some soft rags (to hold the ether) will answer to stuff into the apex of the cone. No expense for apparatus is incurred, and it is clean. On the other hand, these gentlemen assert that the various instruments designed for this purpose are either complicated, expensive, or unclean, and perhaps have all these objections.

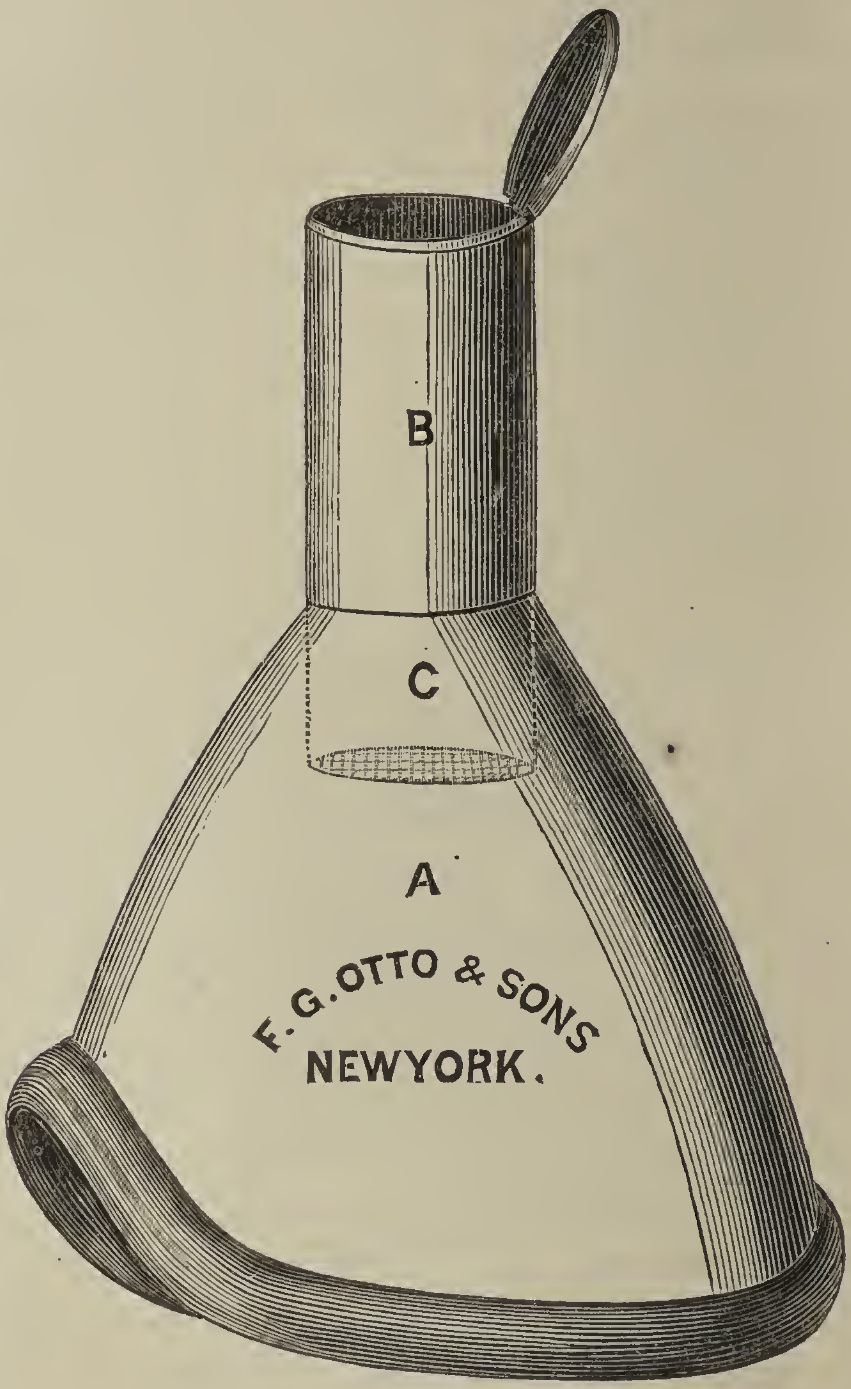
Whether this be true or not, I do not purpose to discuss that side of the question. But there are at least two strong reasons why any form of compressible, impromptu apparatus should not be used, except in an emergency.

They are wasteful. I have repeatedly seen (in one of the metropolitan hospitals) a pound of ether used in one of those towel-cones, before the patient was fully anæsthetized.

In the second place, the carefully-made cone of newspaper, towels, and sponge, invariably "comes to grief" during the stage of excitement. The struggles of the patient necessitate a firmer pressure upon the face, and soon the nice relations which at first existed between the investing cone and the invested ether-saturated sponge are utterly lost; the whole mass is crowded down upon the poor victim's mouth and nose, and his efforts end in *asphyxia* rather than anæsthesia. I have seen just this result over and over again. Neither of these objections applies to any inhaler of which I have definite knowledge.

I have used a Lente's inhaler for fourteen years, and desire nothing better; but I have often heard complaints that it costs too much, and that it is not clean after repeated use. If one has frequent occasion to etherize, he will soon save the cost of the instrument in his bills for ether. I am obliged to admit that it is unclean, *as generally used;* but it should be washed. However, I have heard these objections made so many times, that I have become convinced that there is really a necessity for an apparatus which shall be so simple in construction that it can be home-made if necessary, and at the same time be efficient, clean, and cheap.

I believe that the one shown in this connection meets all these requirements. This instrument was devised a year ago. Messrs. F. G. Otto & Sons made one of them, and I handed it to some friends connected with a hospital in Brooklyn for trial. These gentlemen have expressed the opinion that it accomplishes all I have claimed for it, and that it necessitates the use of very little ether. As seen by the cut, this inhaler consists of a tin face-shield (*A*), surmounted by an oval tube (*B*) two by two and one-half inches in diameter, and three inches long, the bottom of which drops slightly below its junction with the face-shield, to prevent any excess of ether from flowing down the sides of the cone to the face of the patient. A diaphragm of wire cloth (*C*) is secured near the bottom of the tube, and a moderately close-fitting cover closes the top. The lower edge of the cone can be supplied either with a stuffed roll of rubber cloth, or an apron of sheet-rubber (one-sixteenth of an inch thick), to completely exclude the air. Messrs. Otto & Sons are also prepared to furnish them plain (japanned) or nickel-plated.



To use the inhaler, fit a fine sponge carefully to the oval tube, and press it down upon the wire-cloth ; then pour about two drachms of ether upon the sponge, close the cover, and commence the administration by holding the cone about three inches from the patient's face, directing him to take full inspirations, and at the same time assuring him that he will soon get accustomed to breathing the vapor. As soon as three or four deep inspirations have been taken, gradually bring the inhaler closer and closer to the face, till all outside air is comletely excluded. By this time the cover may be raised, and one or two drachms more may be added. By following these directions *exactly*, the administrator will have the satisfaction of seeing his patient speedily pass into a condition of complete anæsthesia.

More than this, he will often observe that this condition is not preceded by any "stage of excitement."

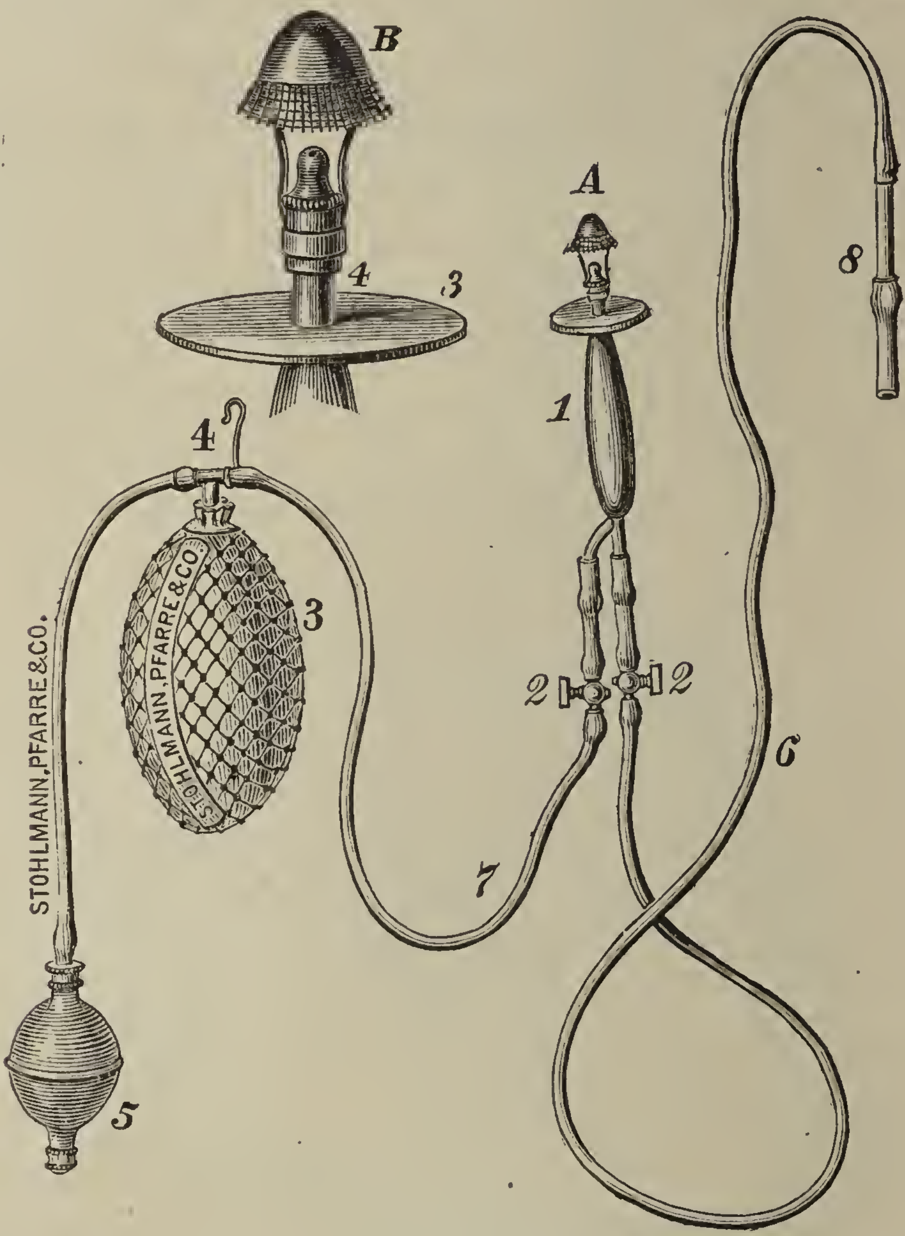
Finally, having many times seen good surgeons and skillful operators subject their patients to unnecessary discomfort and actual suffering, by using the towel-cone as mentioned above, I present this plan for an inhaler, in the hope that some of those who still use the towel-cone may be induced to try another method; and I am sure that a fair trial of this simple apparatus, used as I have indicated, will convince any candid mind that I have not overstated its merits.

ART. IV.—*A New Combined Gas-Cautery.* By ALLAN McLANE HAMILTON, M.D.

DR. JAMES J. PUTNAM, of Boston, exhibited at the last meeting of the American Neurological Association his modification of an English cautery which embodied the principles of the gas blow-pipe and the air-bulb of the spray-producer. This invention is not a new one by any means, as it has been used for several years in France.

I have since devoted some of my spare time to the construction of an instrument which, in some respects, is superior to those I have seen, and, with the aid of Messrs. Stohlmann, Pfarre & Co., I have so far perfected and reduced the price of the cautery as to place it within reach of all.

The apparatus consists of two pipes (one within the other), which convey air or oxygen and house-gas to a common burner. These tubes are connected with stopcocks (Fig. *A*, 2, 2), which enable the operator to control the size of the flame. A handle (1), covered at one end by a shield, completes the body of the instrument. At the end of the burner is a dome of platinum which is fastened to the end of the burner by a ring and clamp (Fig. *B*, 4), so that, by a simple movement, the dome can be removed and substituted by another. About the lower edge of the platinum is a small collar of wire gauze expanded at its lower end, which prevents the escape of any return-flame (Fig. *B*).



From the two stopcocks pass rubber tubes, one to the gas-burner, the other to a T of brass pipe, the middle branch of which extends into a large spinal ice-bag (Fig. *A*, 3). This is covered by a strong net. To the other branch a rubber tube is attached. This tube terminates in an ordinary rubber atomizer-bulb.

At the T-piece is a small hook (Fig. *A*, 4), by which the ice-bag or air-reservoir can be attached to the button-hole of the operator.

The advantages I claim for the modification of the instrument I have described are the following:

1. The adoption of a jet which prevents all hissing or noise, and still produces a very powerful blast.
2. The apron of wire gauze, which prevents the return of flame, thus obviating the danger of burning parts that we do not wish to affect.
3. The large bag, which acts as a reservoir, so that the operator need not use the rubber bulb nor watch the burner after it is filled.
4. The hook, which enables him to suspend the bag and tubing from his person, thus removing all drag.
5. The cost, which is half that of any other instrument.

The general advantages of this form of cautery are important. A uniform heat may be kept up for hours with very little exertion. The furnace—which is not only inconvenient, dirty, and alarming to timid people, but is a slow method—is done away with. In less than a minute the platinum dome can be heated to whiteness.

The instrument-makers are constructing instruments of this kind for uterine surgery and other purposes, and I have suggested to them to make different-shaped platinum tips.

ART. V.—*Treatment of Acute Dysentery by Injections of Hot Water.* By JOHN J. REID, M. D.

THE plan of treating cases of acute dysentery by means of injections of water having a temperature of from 100° to 110° was suggested to the writer by the method pursued at the Woman's Hospital in the care of cases of disease of the pelvic viscera.

The results obtained in dysentery have been such as to indicate its use in a large number of cases, if not in all, inasmuch as it does not interfere with any appropriate medication by the stomach.

It is inferred that the effects of hot water on the diseased mucous membrane of the rectum and colon are similar to what they are in the vagina, viz., blanching and contraction of the mucous membrane, with consequent diminution of the calibre of the canal.

Before having recourse to the above method, cold-water enemata were used, and with considerable benefit. Following this, tepid water was employed, and, apparently, with more advantage. As may be supposed, however, neither of these agents produced the same direct action as water of a temperature varying from 100° to 110°.

The method of administration is quite simple, and does not require the services of a skilled nurse, or extensive apparatus.

The hips of the patient are slightly raised, by means of a pillow, and a basin of water of the requisite temperature is placed in the bed so as to allow the nates to rest on the edge of the vessel. The vaginal nozzle of a Davidson's syringe is then introduced into the rectum, and alongside of it the rectal or smaller nozzle. A current of water is then kept up for ten minutes, the water passing through the vaginal nozzle into the rectum, and returning by a steady stream through the smaller one into the basin, without causing any inconvenience to the patient. If the disease is extensive, and the colon involved for a considerable distance, a long rectal pipe may be employed instead of the vaginal nozzle.

The immediate effect on the patient is one of comfort, which lasts for about an hour.

The injections are to be continued every two hours, till the active stage of the disease is past.

Clinical Records from Private and Hospital Practice.

I.—*Case of Hydrophobia.* Reported by S. W. Budd, M. D.

The following case occurred at Roosevelt Hospital, in the service of Dr. Markoe:

A. H., aged fifty-four. Admitted September 12, 1876. Three weeks before admission the patient was bitten, on the index-finger of the left hand, by a spitz dog, which was immediately killed. Ten days afterward he attended the funeral of a friend who had died of hydrophobia, and it was then that he first expressed any anxiety concerning himself. About the fourteenth day he complained of pain in his finger, which became more severe, gradually extending up his arm to the shoulder, and attended by an unnatural sensation about the head and chest, and by great restlessness. These symptoms continued with increasing severity up to the date of his admission. Patient was never before bitten by a dog. On the morning before coming to the hospital, the patient drank a glass of beer. In half an hour after, found that he could not swallow without great difficulty and pain. He had troublesome dyspnœa, occurring at intervals during the day, and complained of a "whirling" sensation in the head—of a slight diarrhœa—but had no vomiting or nausea. With the exception of the glass of beer mentioned, the patient had neither eaten nor drunk anything for three days previous to his coming to the hospital.

On the morning of admission, at 9 A. M., the patient, a large, robust man, walked to the hospital and stated the main points of his history, and that he knew he had hydrophobia. He was perfectly rational. His face had a most anxious expression; his respiration at intervals of every few minutes was jerking and spasmodic; his pulse weak and compressible.

The second and third phalanges of the index-finger of left hand were swollen, but no redness or signs of inflammation were found above this point. The only remains of the bite was a scratch over the last joint. The attempt to swallow any liquid, or even the sight of it, produced a suffocating spasm of more or less intensity, accompanied by an expression of extreme horror, the muscles of the face becoming convulsed, the eyes protruding and rolling in their sockets. Similar attacks were excited by sudden draughts of wind, as from a fan, and, like those excited by liquids, lasted from five to fifteen seconds. The only pain he experienced in the intervals of attack was a severe headache. He had no appetite, but complained of intense thirst and dryness of the mouth.

Treatment.—Patient removed to a private room. Flaxseed poultice applied to the finger, and an hypodermic of ♏xij Magendie's solution of morphia, which was repeated every two hours.

2 P. M.—Patient is more comfortable, though complaining of great thirst. After much persuasion he took a piece of

cracked ice in his hand, carried it with a convulsive movement to his mouth, and crushed it rapidly between his teeth, followed by violent shuddering, and a spasm of the pharynx. It did not give him pain, but produced a "smothering sensation." 5 P. M.—Ate a mouthful of bread, soaked in tea. 6 P. M.—Pulse 72 and weak. Temperature 100½°. Complains of cold hands and arms. Gave hypodermic of ♏v Mag., and *per rectum* an injection of milk Oss with brandy ℥jss.

7 P. M.—Gave hypodermically ♏xx of solution extract Calabar bean, representing a third of a grain of the extract. Repeated the rectal injection of milk. The skin is hot. Pulse 102. Cutaneous sensibility is increased. 8 P. M.—Patient feels much better; the pain in the head is diminished, and says, if he could get rid of the "trembling," he would be all right. Is more hopeful of his condition. Gave ♏xv Mag.

9 P. M.—Gave ext. Calabar bean ♏xx. 10 P. M.—Gave Mag. ♏xv. 11 P. M. and 12 P. M.—Calabar bean, ♏xx.

September 13*th*, 2 A. M.—Gave Mag. ♏xxv. 4 P. M.—Mag. ♏xv. Patient has not slept at all during the night. Is very restless. 6 A. M.—Calabar bean, ♏xx. 7 A. M.—Mag. ♏xv. No improvement in patient's condition. He ate with difficulty a piece of bread, and swallowed a spoonful of coffee, followed shortly by increased severity of symptoms. 9 A. M.—Mag. ♏xxv, and milk *per rectum*, Oss.

10 A. M.—Patient very restless, tosses about his bed; his respiration is jerking, convulsive; the cutaneous sensibility is more marked; he complains incessantly of its being windy, when there is no perceptible draft. The opening of the door, or the trembling of the screen from a jar, produces a convulsive shudder of the upper extremities, though the noise of water falling from the faucet does not disturb him, unless he sees it. Says he has pain in the head, placing his hand on the vertex of the skull, and complains of a sense of constriction about the chest, which at times greatly impedes respiration. Otherwise, from his answers, one would suppose he was very comfortable, yet his countenance wears a most anxious expression, indicative of both physical and mental suffering. His face is flushed, the perspiration standing out in great drops across his forehead and over his body. He is

somewhat delirious, though not incoherent. He talks a great deal, complains of being cold, and the next instant of being too warm. He asked for some wine-and-water, but the attempt to swallow brought on a paroxysm. His sputa is very viscid and of a yellowish-white color. 11 A. M.—Gave Mag. ♏xxv. 12 M.—The amount of saliva increasing. 1 P. M.—Patient became suddenly violent, and tried to escape from his room. Face much congested; saliva is secreted freely, which he ejects from his mouth in every direction. Mag. ♏xxv administered. 2 P. M.—Repeated the hypodermic, Mag. ♏xxv. The paroxysm not abated; if possible is more violent than ever. 3 P. M.—Gave hypodermically Calabar bean, gr. j. Saliva flowing freely, foaming from his mouth as he talks. 4 P. M.—No benefit received from the Calabar bean. Is still wildly delirious. Gave Mag. ♏xxv. $4\frac{1}{2}$ P. M.—Patient not quite so violent, from exhaustion. 5 P. M.—Patient died.

Autopsy made by the coroner, but nothing remarkable was found.

The total amount of morphia given was grs. $9\frac{1}{10}$; of extract Calabar bean, grs. $3\frac{1}{4}$.

Notes of Hospital Practice.

NEW YORK FOUNDLING ASYLUM.

THIS institution has in its charge over sixteen hundred children, of which about two-thirds are out at nurse in the city and surrounding country. This large infantile aggregation allows an excellent opportunity to study the influence of caring for them in one house, and comparing such results with the results obtained from those living without the walls of the institution. Advantages follow either method, and have also attendant dangers.

Those residing in the house have more attention given to them by persons skilled in the care of childrent han could possibly be given by nurses burdened with their own domestic duties. On the other hand, however, when an epidemic breaks out, the danger to each individual is great. This has been proved on two or three occasions.

While those out at nurse do not suffer from the last-mentioned danger, they have one to meet that is nearly as great, and that is, the exposure to any local epidemic in the city or country. This of necessity must be so, inasmuch as they are pretty equally distributed over a large amount of territory. Of those children at nurse, the prevailing disease of the fall, winter, and spring, is bronchial catarrh, which in the great majority of cases does not pass into catarrhal pneumonia. During the hot season the catarrh of the bronchi yields to greater intestinal catarrh, and as such contributes to the majority of the mortality. It becomes of marked interest to inquire into the cause of this, and although it is obvious that a correct result cannot be arrived at without investigating a large number of cases in different localities, yet the results obtained here may prove of advantage to those studying the causes of cholera infantum. Catarrh of the respiratory passages seems to be the most frequent morbid condition of infantile life, due in all probability to the peculiar sensitiveness of the mucous membrane. The causes that increase this catarrh seem to be barometrical states of the atmosphere, of which we know but little, exposure to cold air, and malaria.

But little can be said of the first two causes, but the third offers an extensive subject for discussion. We know from pathological investigations that in malaria there is a tendency to cerebral, thoracic, and abdominal congestion, and this congestion of the viscera offers us an explanation of persistency of bronchitis and diarrhœa, complicated with cerebral symptoms. What is more important is, that it suggests a guide in therapeutics, which can be followed with marked benefit. Those who have not had their attention directed to the subject may, in cases similar to those referred to, notice that bronchitis and diarrhœa occur with and without a malarial complication. It is not within the scope of the present article to discuss the question whether the malarial attack is provoked by a cause exciting a bronchitis, or a diarrhœa; or whether such attack would expire by limitation. Suffice it to say that an extended bronchitis and diarrhœa will yield to anti-malarial treatment when other remedies fail.

It may be apropos at the present time to clear up the treatment of another disease, and that is whooping-cough. Some observers suggest quinia in its treatment, others chloral, and others different remedies to allay the paroxysmal attacks. From the suggestions made above, it will seem clear that, if there is the malarial complication, quinia or some other anti-periodic remedy can alone be relied on; whereas, if no malarial taint can be discovered, we may hope for success from chloral or other remedies having a similar action. If, however, the disease prove persistent, regardless of the absence of fever, quinia should be had recourse to, to relieve a possible congestion which does not give external signs of fever.

Among the large number of cases under observation, it is important to notice the small number of those in whom there are evidences of a syphilitic taint. Care is taken, however, to prevent the nurse from exposing herself to the disease by quarantining all suspicious cases until the diagnosis is settled, and during that period nursing them with the bottle.

During the first year a severe epidemic of measles broke out, and resulted in a greater mortality than usual, through the complication of pneumonia. It was of interest to note that during the epidemic a number of cases took the disease after having had it three years previously.

Diphtheria has never assumed the characteristics of an epidemic. Though the sporadic cases have been of as severe a type as those occurring during an epidemic, different methods of treatment, both general and local, have been given a fair chance, but, after a careful review of the various methods, no special remedy or system has proved of marked advantage. Some observations have been made to determine the effect of the disease upon the temperature, but the number of cases has not been sufficiently large to yield any reliable deductions. The main obstacle so far has been to separate cases of pure diphtheria from those complicated with malaria and other intercurrent affections.

BELLEVUE HOSPITAL.

The Use of the Plaster-of-Paris Bandage to supersede the Extension-Splint in Disease of the Hip-Joint.—Dr. Stephen Smith has introduced the use of plaster-of-Paris dressing in his orthopedic service as a method of treating disease of the hip-joint. The results which have attended its use are such as to commend it specially to those who are at a distance from instrument-makers, or to those who have to treat patients not in a condition to buy the ordinary extension apparatus. It was first used as an economic procedure, but experience has justified its use when this was not a necessity.

So far the apparatus has been applied only in cases where there were no signs of suppuration, or, in other words, in the first and second stages of the disease. The manner of applying it is as follows: A piece of blanket is fitted about the affected extremity, so as to involve the leg, thigh, and pelvis. The patient is then placed on a stool, with the affected limb hanging down. In this way sufficient extension is obtained. The plaster-bandage is then carried from the toes upward till it passes around the pelvis, and securely holds the affected joint in a state of rest.

It was found that, after the extremity had been kept in this dressing for some time, and then taken down, there was motion in the joint, without pain.

Fistula-in-Ano treated by the Galvano-Cautery.—A man was for some time in the hospital with fistula-in-ano, opening on the buttock, about three inches from the median line. It resulted from a kick which the patient received on the buttocks. A cellulitis of the nates was set up, which extended to the ischio-rectal fossa. The abscess opened into the rectum as well as upon the nates, and formed an extensive sinus. It was decided to try the effect of the cautery upon it, and Dr. Piffard was asked to apply his apparatus. A wire was introduced through the opening on the surface, and out through the rectum. The patient was then anæsthetized, and the battery put in working order. A sufficient amount of galvanic action was allowed to make the wire only red-hot, and gradually burn its way out. No hæmorrhage followed the operation, and on inspecting the wound it was found to be perfectly dry. It continued so for a week, when the surface was found covered with healthy granulations. There was no appreciable discharge of pus. The patient had been suffering from the fistula for over two years.

Gunshot-Wound of the Abdomen. — During the political excitement of election-day, a boy was shot in the left inguinal region. He was taken to hospital, and it was then found that the bullet had entered through the walls of the abdomen. There was no external hæmorrhage. On the evening of admission local peritonitis was set up. This soon became general, and was characterized by pain, tympanites, and vomiting of greenish matter. The patient was given an eighth of a grain of morphia every hour. This was found sufficient to relieve the pain. After six days the temperature fell to normal, and all the urgent symptoms passed away.

Dislocation backward of the Radius and Ulna.—A boy, twelve years of age, entered hospital with a dislocation backward of both bones of the forearm at the elbow-joint. It was caused by falling from a cart, and striking the pavement with his hand. The patient was anæsthetized, and the dislocation reduced by Dr. J. E. Woodruff, by bending the elbow at a right angle, and using the knee as a fulcrum.

Double Pneumonia.—A patient had an attack of pneumonia, and during the delirium made an attempt to cut his throat. It was found that there was a slight opening through the thyro-hyoidean membrane, but not sufficient to cause any serious symptoms. The patient complained of dryness of the throat, and to relieve this was ordered inhalations of steam. An apparatus was extemporized by taking an ordinary kerosene-oil can, filling it with water, and conducting the steam from it through an India-rubber tube. The issuing steam was allowed to escape at a short distance from the face of the patient. The apparatus was in principle the same as a croup-kettle, and could be extemporized at any time. The source of heat was an ordinary spirit-lamp.

ST. FRANCIS'S HOSPITAL.

MUCH satisfaction has been experienced in the treatment of chronic ulcerations by the use of a solution of chloral hydrate.

It is used as a daily dressing, and appears to produce better results than the usual mineral astringents. The strength of the solution is ten grains to the ounce of water.

CHARITY HOSPITAL.

Urethritis following Orchitis.—A patient entered the venereal service, suffering from a urethritis which he claimed to be a sequel of orchitis. The history was to the effect that eight days before admission he received a blow on the right testicle, which caused an ordinary attack of orchitis. On the fourth day following the injury, the usual symptoms of gonorrhœa developed. According to the testimony of the patient, he had not been exposed to the disease, and was at a loss to account for its presence.

Correspondence.

572 LEXINGTON AVENUE, NEW YORK, *September* 25, 1876.

EDITOR NEW YORK MEDICAL JOURNAL:

The June number of the NEW YORK MEDICAL JOURNAL contained a very interesting paper by Dr. Frederick Semeleder, on "The Treatment of Ovarian Cysts by Electrolysis."

Although Dr. Semeleder does not claim priority in the employment of this method of treatment, yet others may do so, and, I think, with less justice than I. A paper on the same subject was read by me before the Berliner Medicinische Gesellschaft, at the stated meeting of January 13, 1869, and an abstract was subsequently published in the official report of the transactions of the Society (*Berliner klin. Wcschr.*, 1860, March 8th, No. 10).

The same paper was again read by me before the Medico-Surgical Society of German Physicians (New York), in 1870.

I find myself compelled to assert my priority in this case, as Dr. Friedrich Fieber, in his first paper on this subject (*Wiener med. Presse*, 1871, No. 15), has omitted to mention my name as the first who ever performed galvano-puncture of an hydrovarium.

Emil Flies, M. D.

Proceedings of Societies.

PATHOLOGICAL SECTION OF KINGS COUNTY MEDICAL SOCIETY.

Regular Meeting, June 22, 1876.

Dr. Giberson, President, in the Chair.

Dr. P. L. Schenck, Medical Superintendent of Kings County Hospital, presented specimens with the following history:

B. R., aged fifty-five, German; admitted to King's County Hospital, December 28, 1875, suffering from ulceration of tongue. General condition moderately good; pulse 80, intermittent; no fever; temperature normal; verbal articulation is greatly impeded, and prefers writing his wishes; deglutition is difficult, easy only when head is thrown backward; salivation profuse; skin pale; appetite fair; has a habit of using large quantities of salt, even putting it in his tea and coffee; habit is of long standing; ulceration of tongue is located on central part of right border; oval in shape; long diameter is one and a quarter inch; edges rough and irregular, and the neighboring teeth are loose.

General and local treatment having failed to produce any effect, the disease was believed to be malignant, and after consultation it was deemed advisable to remove the mass, as the adjacent glands were not involved, while the disease appeared to be local, and was increasing in extent.

Operation, January 13, 1876, by Dr. J. C. Hutchison, consulting surgeon. After anæsthesia, the tongue was exposed by Regnoli's U-shaped incision, and split in median line by Nott's rectilineal *écraseur*, the right half being removed near the base with the same instrument. The parts were replaced, and external wound closed by sutures. Hæmorrhage slight. Deglutition was difficult after operation, but was aided by a tube arranged to carry the food to extreme posterior part of mouth.

After ten days the tube was unnecessary, and the wound had healed. He was discharged February 16, 1876, apparently recovered; but after a few weeks the portion of wound last to heal reopened and allowed saliva to escape, and he was readmitted April 3, 1876, about seven weeks after discharge. At this time a hard nodule was found on right side of larynx, at junction with trachea, about the size of a walnut. The intra-buccal cicatrix had begun to ulcerate, and there was general induration beneath the chin, while a small ulcerated opening gave passage to pus, saliva, and liquid ingesta.

Progress of Case.—Ulceration and loss of tissue went on rapidly. On Sunday, April 30th, a severe hæmorrhage took place, and was controlled with great difficulty, a considerable artery having evidently been opened. The nodule near trachea has enlarged, softened, and now evidently fluctuates.

The patient failed rapidly, until he was carried off by severe pleuritis of right side, with gangrene of lung, June 13, 1876.

Autopsy, four hours after death.

Brain not examined.

Heart. — Pericardium roughened by recent deposit of lymph; valves normal, except atheroma of left side, too slight to cause impaired function. At apex of left ventricle deposit of foreign matter, light yellow in color, tolerably firm to touch, and at one point of the deposit is a cyst, with two drachms of transparent, straw-colored fluid. The deposit is size of hen's-egg; weight of heart, 1 lb. 1 oz.

Lung, Right.—Lower two-thirds of pleura covered by purulent lymph, and cavity contains 4 oz. of sero-purulent fluid. Upper portion of cavity is slightly adherent, but non-purulent. Lung-tissue: lower half is carnified, with great enlargement and thickening of bronchial tubes. Anterior part of middle lobe is gangrenous, a portion of the tissue having sloughed away, leaving an irregular cavity, filled with slate-colored fetid pus; in upper lobe, old (apparently) tubercular cicatrices; lung œdematous and congested; weight, 2 lbs.

Lung, Left.—Pleura normal; scattered throughout organ are masses of foreign matter, size of a buck-shot.

Lung is somewhat emphysematous, but has no œdema or congestion; weight, 12 oz.

Liver.—Surface rough, and has a cartilaginous feel under the knife; evidently cirrhotic; gall-bladder contains two drachms of dark-brown bile; weight, 3 lbs. 9 oz.

Kidneys.—Slightly pale; weight, 13 oz.

Spleen.—Normal; weight, 6 oz.

Stomach.—Mucous membrane thickened and hardened.

Intestines.—Normal.

Head and Neck.—On under surface of chin an opening in integument allows a view of whole cavity of mouth, with the remains of tongue lying posteriorly and to the left. The absence of four-fifths of this organ, with nearly all the soft parts on floor of mouth, leaves a cavity about the size of an orange, spherical in form, its lower half ulcerated. On right side of larynx and trachea an oblong cavity, of capacity of four fluid ounces, presses apart the muscles of the neck, between which it is situated. It contains a fluid whose upper portion is clear straw-color; the lower half is opaque, and somewhat resembles pus. The glands of the neck, though enlarged, do not contain a deposit. The portion of tongue removed January 13, 1876, was presented to this Section at its meeting of same date, and was examined by the Microscopical Committee, which found no abnormal growth whatever in the specimen. (*See* New York Medical Journal, April, 1876.)

The pathological specimens removed at autopsy were presented with this history; were referred to the Microscopical Committee, which made the following report:

"The committee has examined the specimens presented, viz., heart, tongue, and annexa, tumor of neck, and fluid from cervical cysts.

"The cell-growth is identical in all the specimens, and consists of cells, greatly varying in size and shape, uni- or multi-nucleated, and accompanied by occasional giant-cells. Where any intercellular basis-substance exists, it is usually homogeneous and granular, showing no signs of fibrillation. The appearances show rapid proliferation, and hence great malignancy. The growth comes under the head of sarcoma. A section of cyst-wall from neck gave negative results."

The report calls attention to the rarity of *primary* sarcoma of tongue, and to a case reported by Dr. Delafield, "Transactions of New York Pathological Society" (*New York Medical Record*, June 24, 1876).

On motion, adjourned.

Stated Meeting, September 14, 1876.

The President, Dr. Giberson, in the Chair.

Dr. Westbrook presented the heart and aorta removed from a sailor, who entered the Long Island College Hospital with cerebral compression from a fractured os frontis, and died nine days after receiving the fatal injury. The fracture was found to extend through the ethmoid bone, and there was laceration of right anterior lobe of the cerebrum, in which also an abscess was found, communicating with another located between the dura mater and skull at the seat of injury. Cardiac valves were normal, but the aorta was dilated—not excessively so—with patches of atheroma.

Dr. Westbrook also presented a heart removed from a laborer, aged forty-nine, who was prostrated by heat at 5 p. m., July 19, 1876, and fell comatose.

He was removed to the College Hospital, and his condition was as follows: Pulse 130, weak; respiration slow and stertorous; temperature 106.5° in axilla; the sphincters were relaxed; surface cold, except abdomen, which was hot; he was vomiting "coffee-grounds," and was considered moribund. He was given hypodermics of whiskey and ammonia, and three of Lente's solution of quinia. His pulse improved somewhat, but not permanently, and he died about four hours after his entrance.

At the autopsy, meninges and brain were congested; ecchymosis was found on the floor of the fourth ventricle; lungs and abdominal viscera were congested; left heart hypertrophied; aorta atheromatous; valves much deformed, and very insufficient, being as stiff as bone. The extreme left hypertrophy seems to account for the anomaly of a man with such valvular lesion pursuing a very laborious avocation, with apparently so little annoyance by cardiac symptoms.

In discussing the subject of sunstroke, Dr. Segur said that most of the cases he had seen at St. Peter's were of the exhaustive type, with no increase of temperature.

Dr. Westbrook, in reply to a question, said that, in his experience, the Lente's solution had caused œdema, but no abscesses.

Dr. Segur said it appeared to him that, in times of frequent fatal sunstroke, the minds of some persons became morbid on the subject; and, as the result of fatigue, a sort of pseudo-insolation was occasionally observed; he thought he had seen such cases, and they appeared to him to be like similarly acquired cases of chorea, or hydrophobia, in etiology.

Dr. Rockwell spoke of the theory mentioned in "Reynolds's System," that tight clothing around the neck, and suppression of perspiration, were to be considered as causes of sunstroke, and asked if any members had facts bearing upon this point.

Dr. Westbrook spoke of a case with *entire* suppression of perspiration, which came back under treatment, and gradually extended over the body, *pari passu* with complete recovery.

Dr. Rockwell, and others, spoke well of the cold affusion and ice-bag plan in cases of high temperature.

Dr. Giberson had seen well-marked cases of the pseudo-insolation in men, appearing almost like some forms of hysteria.

Dr. Westbrook, and others, spoke of the occasional occurrence of sunstroke out of the direct rays of the sun; and Dr.

Giberson remarked that this was well known to English surgeons in India.

Dr. Westbrook also presented a heart removed from a sailor, aged sixty-seven, who entered the hospital in a scorbutic condition, and died of asthenia. Both orifices were contracted; small *ante-mortem* balls of fibrine were found in the left ventricle, and were somewhat softened. There was aortic atheroma.

Dr. Rockwell presented a calculus removed from a young man, who had had symptoms of it for a long time. He had been examined several times by physicians, but no stone had been found. Dr. Rockwell succeeded in recognizing one at the left of the *bas-fond.* On August 2, 1875, it was removed by the usual lateral operation. The stone was attached to the bladder, and not free. On the following day he passed urine *per urethram.* The bladder was washed out by solution of salicylic acid, $\frac{1}{300}$ strength. On August 12th, had a sharp chill; said to have had a temperature of 109°, as taken on a good thermometer. ℞. Quiniæ. Improved, and was up by the 16th. On the 21st of August was discharged as cured. Calculus appears to be made of three fused together.

Dr. Rockwell would have crushed the stone, but an accurate measurement was found impossible, and he was deceived as to its size.

Dr. Giberson presented the left great-toe, and part of metatarsal bone, of a man aged sixty-four, who had had a painful joint for five years. Had diffuse inflammation of anterior and inner part of foot, which was found to be sloughing and gangrenous. It was thought to be senile, from embolism. Stimulants and disinfecting local applications were used; the slough separated, and the parts healed, except one small point. The patient felt quite well, and worked for several months, but had still some pain at ulcerated point. An examination by probe showed the joint to be opened, and ends of bones necrosed. Two weeks ago the toe and half of the metatarsal bone were removed. The first phalanx was found to be necrosed, and partly absorbed, and joint disorganized. Patient is doing well, although wound did not heal by first intention.

The original lesion was probably rheumatic, the local inflammation producing gangrene.

Dr. Rockwell spoke of Mr. Hutchinson's (of London) opinion that melanoma of the great-toe is often mistaken for senile gangrene.

The specimens were referred to the Microscopical Committee, and the Section went into executive session.

N. B. Sizer, *Secretary.*

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 25, 1876.

Dr. C. K. Briddon, President.

Scleroderma and Sarcoma of the Tibia.—Dr. Joseph W. Howe presented a specimen of sarcoma of the tibia, which he had removed by amputation from a patient with scleroderma. The history was as follows: The patient was nine years of age, and had been under the observation of different members of the Society for the past three years. The first portion of her history was contributed by Dr. Gibney, who had charge of her in 1874. During December, 1873, she fell from her bed and caused a contusion of the inner side of the right leg, which soon became swollen and painful. One week subsequently she complained of something biting her on the knee. The integument over the injured tissues itched considerably, and following the pruritus there was an induration and roughness. The induration extended upward to the groin, and was accompanied by discoloration and glandular enlargement. Two months afterward the induration and roughening had involved the leg below the knee, at the inner side and behind. Later still the nates and lumbar region on the right side became affected. The flexor muscles of the thigh as well as the ham-string muscles were rigid. The thigh was flexed on the abdomen, and could only be extended by using great force. The affected integument had somewhat the appearance of cicatricial tissue, being hard and immovable, and in some parts glistening and discolored. There was no regularity in the size of the patches, though they were continuous, and were found on the right side of the scalp. The skin in close proximity to the patches was discolored.

Last spring the patient was admitted to St. Francis's Hospital. She was then very much emaciated, and seemed to be failing rapidly. There was a large, ragged ulcer extending from the knee-joint down along the inner side of the leg to the ankle. Above the ulcer the integument was very hard and thick, in some places white like a cicatrice, and in others brownish. On admission the patient was so much reduced that all operative procedures were postponed till her health could be in part restored. During August an enlargement was noticed over the lower part of the tibia, corresponding to the ulcerated surface. The bone and soft parts were alike involved. In a short time a large fungous mass grew out, measuring six inches in a vertical diameter, by four transversely. This was bathed in fetid pus, and bled readily. Ulceration commenced both above and below the mass, extending upward to the knee, and downward to the great-toe.

After consultation, it was considered proper to amputate, and on September 29th the operation was performed at the middle third of the leg. The flap on the inner side was made through the indurated integument, while the outer one was through healthy skin. The diseased flap was a quarter of an inch thick, and appeared to be divided into two layers, an external, white, and glistening, and an internal, of a yellowish color, and the consistency of cheese. The bone on section was found to have its marrow replaced by a reddish-colored fluid, and it was necessary to make another section an inch and a half higher to obtain healthy tissue.

After the operation the child improved rapidly. A portion of one of the flaps sloughed; this apparently resulted from the use of Esmarch's bandage. The only interference with cicatrization was the rapid production of large flabby granulations, which developed equally from the normal and indurated flaps. Ten days after the operation the patient was able to sit up.

An examination of the specimen proved that the disease extended down through the tarsus and metatarsus as far as the phalanges. A microscopical examination of it, by Dr. Francis Delafield, revealed the presence of different kinds of cells, some of them small and round, others fusiform, and a few large, irregular, and polynucleated, such as are found in malignant sarcoma.

The indurated skin was also examined, and found to be made principally of connective tissue.

Dr. GIBNEY said that the patient had been originally under his care, and no albumen was detected in the urine. Dr. N. G. McMaster, of St. Francis's Hospital, had informed him that on entrance to that institution there was albuminous urine, with enlarged liver, but since the operation the albumen had decreased.

The Cause of Death of the Late Dr. J. L. Thebaud.—Dr. HENRY B. SANDS presented the heart and portion of the right lung which had been removed from the late Dr. J. L. Thebaud, of this city. Dr. Sands said they were of melancholy interest, inasmuch as they explained the cause of death of an honored member of the Society. Dr. Thebaud had been for several years in failing health, suffering from precordial pain and dyspnœa, supposed to be due to disease of the heart or aorta. Before the accident his health was better than it had been for some time. The accident, which resulted fatally, was caused by the bursting of a cartridge. The explanation of the occurrence was, to a certain extent, involved in mystery, but, as near as could be ascertained, Dr. Thebaud was engaged in filling some shot-cartridges by means of a brass cylinder. During the operation an explosion took place, which resulted in bursting the cylinder and carrying a part of it through the chest-wall and into the right lung, though this latter fact was only ascertained at the autopsy.

After the explosion he arose from the table at which he had been sitting, and made his way to his bedroom on the second floor. He was seen shortly afterward by Dr. Sands, and examined as thoroughly as possible under the circumstances. He was then delirious and nearly pulseless. One of the fingers of the hand was lacerated, and hæmorrhage was found to be taking place from a wound in the thorax, to the right of the sternum, and over the fourth intercostal space.

The hæmorrhage was not from the integument, but from the cavity of the chest. The examination of the character of the wound was conducted by carrying the little finger into the opening for an inch and a half, when it met with resistance; no fracture of the ribs could be detected, and no foreign body could be made out. It was feared at that time that the lung was wounded, and this supposition was confirmed next day when the patient spat up some blood. During the first night following the injury his condition was very grave. The second day gave no signs of improvement, and it was then thought that pneumonia had begun. On the fourth day there was slight improvement, although dyspnœa and delirium continued. There was no marked change during the fifth, sixth, and seventh days, with the exception of fever, which was supposed to be malarial. On the eighth day he failed markedly; this continued on the ninth and tenth, when he died. During the illness the pulse ran from 100 to 120. The respirations were above normal. On the evening of the injury the temperature was so low that the thermometer would not register it, but from that time it rose gradually till it reached 101°. Death occurred from syncope. During the greater part of the time the patient was conscious, but never referred to the injury. The autopsy was conducted by Dr. Finnel. On examining the chest an opening was found to the right of the sternum, measuring an inch by an inch and a quarter; this was found to be caused by a portion of the brass cylinder previously referred to, which passed through the intercostal space, and imbedded itself in the lung; the fragment formed an irregular quadrilateral figure, measuring an inch by an inch and a quarter; from one angle there projected a process which was found to have entered the pericardium and scratched the heart, but did not penetrate it; the pericardium contained about a pint of blood, and presented the usual evidences of pericarditis. The lungs were adherent to the chest on each side, and presented evidences of chronic inflammatory disease, as well as localized pneumonia in the neighborhood of the foreign body. Dr. Sands said that the case was important, as it brought forward the question, Would the removal of the foreign body have been justifiable?

Inasmuch as it could not be detected by careful examination, the question did not bear specially on the present case; but, in case it had been detected, and the size of it made out, Dr. Sands was of the opinion that its removal would not have been justifiable, inasmuch as it would have required the operation of exsection of a portion of the ribs to admit of its withdrawal. Writers on military surgery deprecate any interference which would increase the danger, and Dr. Sands thought that, had the exact condition been known before death, the removal would have hastened the issue. The cause of death was syncope and pericarditis. Dr. Briddon saw the case in consultation with Dr. Sands, and agreed with him in regard to the treatment.

Some discussion took place between Dr. Howe and Dr. Sands in regard to the removal of bullets in gunshot-wounds, but it did not pertain specially to the case under discussion.

Dr. Post thought that any operation upon a patient so exhausted as Dr. Thebaud was would have been inexpedient.

Dr. James R. Wood coincided in this view.

Hip-Joint Disease.—Dr. C. K. Briddon presented a specimen of bone which he had removed from the hip-joint of a child two years of age. At the age of eight months it received an injury, but the only evidence of subsequent disease was a tendency to limp when it grew old enough to attempt to walk. Three months ago it was noticed that the child was restless, and shortly afterward an abscess formed in the thigh. On admission to hospital the limb was flexed and abducted.

The operation of exsection was performed on October 16th, and since that time the patient has done well. The acetabulum was found to be filled with granulations when the joint was opened.

Osteo-Sarcoma of the Tibia.—Dr. C. M. Allin presented, on behalf of a candidate, a specimen of osteo-sarcoma of the tibia. The patient was a cashier in a bank, and was sixty-six years of age. The patient had been afflicted with rheumatism during his life. He had noticed that a pain occurred in the tibia, and gradually there followed an increase in the size of the bone below the knee-joint. This became of a fungous character, such as occurs in cases of osteo-sarcoma.

It was decided to remove the disease by amputating at the knee-joint, which was done.

An examination of the specimen showed that the osteosarcoma was of about the size of an orange, and situated below the head of the tibia, on its anterior surface. The joint was not involved in the disease.

Alveolar Sarcoma.—Dr. Heitzman stated, in reference to the tumor presented by Dr. Post at the last meeting of the Society, that it was an alveolar sarcoma. He said that a sarcoma can produce in the epithelium changes of two kinds: 1. That of an inflammatory character; 2. That which leads to the production of sarcomatous elements from the epithelium.

When inflammatory changes take place in the rete mucosum above a fast-growing sarcoma, they give rise to new formation of elements within the cement-substance from the uniting threads of living matter—the so-called thorns. The epithelium is at last separated into indifferent elements, analogous to those grown from connective tissue, and characterized only by the presence of pigment-granules of the former rete mucosum. The transition of epithelium into sarcoma elements can be studied in sarcomatous tumors of glands, such as testicle, etc.

The first change noticed is an increase of the living matter of the glandular epithelium, which leads to the new formation of nuclei. Then new division-marks are formed around the nuclei, and the protoplasm directly falls asunder into sarcoma elements. Therefore, the exclusive property of epithelium in producing cancer, and that of connective tissue in producing sarcoma, cannot be maintained, though it has been asserted by recent observers.

Stated Meeting, November 8, 1876.

Dr. C. K. Briddon, President.

Extraction of Button from Nose.—Dr. Sayre presented a button which had been removed from the nose, by a forceps designed by an English surgeon.

Dr. A. H. Smith had found that the most satisfactory way of removing foreign bodies from the nose was by forming a probe into a hook, and introducing this hook behind the foreign body.

Dr. Briddon agreed with Dr. Smith, and suggested that in difficult cases it might be necessary to push the foreign body down into the pharynx.

Cystic Tumor of the Mammary Gland.—Dr. Henry B. Sands presented a tumor which he had removed from the breast of a woman under the following circumstances: She was married, thirty-eight years of age, and sterile. Three years ago a small tumor was found near the nipple; it grew slowly, till six months ago, when it made more rapid progress. Six weeks ago a very decided progress took place, which continued up to the time of removal. The size was then five times larger than it was six months ago. It measured six inches in one diameter by twelve in another, and was movable on the pectoral muscle beneath: there was no pain. The areola of the breast was perfect, and the nipple was not retracted; a sensation of fluctuation was communicated to the finger, and it had much of the appearance of a chronic abscess posterior to the mammary gland. Upon inserting an hypodermic needle, a clear, grayish, albuminous fluid was obtained, which, under the microscope, showed the presence of blood-corpuscles. The diagnosis of the case rested between a proliferous cyst, a retention-cyst due to dilatation of the lacteal ducts, and a sero-cyst. Previous to the removal a trocar was introduced, and four ounces of fluid withdrawn. This revealed one fact, and that was that the cyst was incidental to the tumor, for when the fluid was taken out the contour of the mass was easily distinguishable. The skin over the tumor was not changed, but was attached to the growth. After the operation the entire mass was found to be degenerated, and at its margin there was a cyst without a distinct wall. The glands in the neighborhood were not enlarged.

Dr. Sands was of the opinion that it would prove, on microscopical examination, to be an adenoma. It was referred to the Microscopical Committee.

Disease of the Larynx.—Dr. Beverly Robinson presented some fragments of tissue which he had removed from a diseased epiglottis. He was unable to say whether the growth was epithelioma or sarcomatous cancer. The patient was thirty-one years of age; there were no enlarged glands in the neighborhood.

Dr. H. B. SANDS referred to a case in which there was disease of the left ventricle. It was removed, and after two years the patient died. There was then found to be disease of the supra-renal capsules.

Dr. ERSKINE MASON and Dr. A. H. SMITH recited somewhat similar cases.

Aneurism of the Aorta, with Bone in the Sac.—Dr. GIBNEY presented a specimen which had been sent to him for presentation before the Society by Dr. H. B. Skillman, of Kentucky. The patient was aged thirty-three. He was first seen in 1875, when a small pulsating tumor, the size of a walnut, was found on the supra-sternal notch. It was accompanied by severe pain, which extended down the right arm. One month after he was first seen, a laryngeal cough, with dyspnœa, developed. During September he died. The sac by the time of death had increased considerably in size, and hung over the supra-sternal notch like an orange; it was composed of two pouches. All of the manubrium was in the sac. There was no erosion of the trachea.

Dr. Gibney said he could find records of only two cases in which bone was found in the sac; but Dr. Janeway gave him the history of an additional case in which the aneurism contained a portion of bone.

Cirrhosis of Liver.—Dr. A. L. LOOMIS presented a case of cirrhosis of the liver which was of considerable interest from the fact that after several tappings she so far recovered as to be in her usual health, though eventually she died of hematemesis. The history was as follows: A lady, aged sixty, had been for two years periodically ill with malaria before she came under observation, on November 1, 1874. During March, 1874, she became suddenly jaundiced, and continued so for two months, when it wore away. She lost, however, both flesh and strength, and continued weak and feeble during the summer. During August, tympanites was a very marked symptom. She was taken about this time to Richfield Springs, on a mattress, and with the change of air a marked improvement took place in the symptoms at the end of a month. Subsequently malarial paroxysms returned, and with them an increase in the size of the abdomen. She was again seen by Dr. Loomis on November 15th, when she was found to be emaciated, and on examination of the abdomen it was found to be distended with fluid. Malarial paroxysms returned every few days, causing an increase of the debility.

After removing the fluid with a trocar, marked improvement took place, and the patient returned nearly to her usual health. Some months afterward it again returned—the abdomen increasing a quarter of an inch each day. Before it was thought necessary again to tap, a subsidence took place, and the patient once more returned to her normal health. After the fluid disappeared the liver was found to be much smaller than normal. On March 1st pain was again complained of over the liver, and shortly afterward ascites became apparent; there was also a return of the malarial paroxysms. On May 1st the patient was once more tapped, but subsequently the fluid returned, and on July 1st a similar operation was again performed; only slight relief followed, for by the middle of November she was larger than ever. Tapping was again had resort to, and afterward the fluid did not return, and her general health was so far reëstablished as to allow her to be about and seemingly well. This improvement lasted till the following June, when she was attacked with hematemesis, and died of exhaustion after four or five days. At the autopsy the liver was found to present the evidences of advanced cirrhosis. The surface was quite smooth, and on section a marked increase of connective tissue was noticed. Local peritonitis was found over the stomach and pancreas.

Dr. Loomis said that the case was of interest, as showing the course of cirrhosis. Of particular importance was the development of acute jaundice so long before death, with no subsequent attack. In regard to the diagnosis, it was also instructive, inasmuch as all kinds of opinions had been given as regarded its character. A case of cirrhosis, with the same termination, occurred in the service of Dr. Loomis, at Bellevue

Hospital, in the spring of 1870. No doubt existed as to the pathology of the case, inasmuch as the patient had been a steady drinker. Ascites had been a steady symptom for over six months, in spite of continuous tappings, and at the end of that time hematemesis came on, and caused death in twenty-four hours. At the *post-mortem* examination the liver was so completely cirrhotic as to show no evidence of hepatic tissue proper.

Foreign Body in the Trachea.—Dr. Erskine Mason recited an interesting case in which tracheotomy had been performed for the removal of a foreign body. The facts of the case were briefly to the effect that the patient, a boy aged six, had allowed a melon-seed to pass through the chink of the glottis into the trachea. Paroxysms of coughing supervened, and were accompanied by dyspnœa. When he was seen by Dr. Mason, the cough was brassy, and there was distinct evidence of the presence of the foreign body. Tracheotomy was performed for the relief of the patient, and with the coughing following the opening of the trachea a body struck Dr. Mason's cheek. At that time it was supposed that the melon-seed was disposed of, particularly as no further symptoms were manifested. After three days the tube was taken out, and the patient was next seen on the ninth day following the operation. No trouble occurred till the seventh day, but it was then obvious that the foreign body was still in the trachea or bronchi. It was then determined to enlarge the opening. This was done, and, to the satisfaction of all, the seed was expelled by coughing, after having been in the respiratory passage for three weeks.

Cancer of the Liver.—Dr. John C. Peters presented a specimen of cancer of the liver, with the following history: The patient was a man fifty-three years of age, who had been well up to a period of one year before his death. No evidence of a tumor could be made out, and the prominent symptom complained of was dyspepsia. There was no vomiting. The agent that afforded most relief was chloral. The immediate cause of death was an injury to the brain, which the patient accidentally received. In answer to a question from Dr. Loomis, Dr. Peters said there was no cancerous cachexia.

An examination of the tumor showed it to be, in all probability, colloid cancer.

Ovum.—Dr. Sell presented a case of impregnated ovum of about ten weeks.

Abscess of Perinæum the Result of Stone in the Bladder.—Dr. C. K. Briddon presented a calculus which passed out of the urethra by suppuration. The history was as follows: A boy, aged three years, suffered from phymosis and retention of urine, which was relieved by the passage of a catheter. An abscess was found to exist in the perinæum, near the scrotum, and on cutting into it a calculus was discovered. The explanation of the case was, that the child suffered from stone in the bladder. This escaped into the membranous portion of the urethra, and there lodged. Inflammation was set up, and the stone passed out of the urethra, forming an abscess of the perinæum.

Bibliographical and Literary Notes.

Art. I.—*A Practical Treatise on Materia Medica and Therapeutics.* By Prof. Roberts Bartholow, M. A., M. D. New York: D. Appleton & Co., 1876. Pp. 535.

In a late review of Dr. H. C. Wood's work on "Materia Medica," we took occasion to give it as our opinion that the ideal text-book on this subject remained to be written.

We remarked that Dr. Wood's book, although in many respects most excellent and worthy of commendation, had certain features which made it objectionable both for the student and for the average practitioner. We then expressed a hope that we would soon have a book to fill the gap—a book which, while coming within the comprehension of all, would be fully up to the latest advances in the art and science of therapeutics.

Let us now see how near Dr. Bartholow has come to producing such a work. Coming so soon after Wood's book, and covering essentially the same ground, it is but natural that we should compare them; and, while we do not care to carry out a full comparison, there are some points in which we cannot refrain from pointing out the differences. The two chief objections to Wood are that, in attempting to carry out the physiological method, he has done it to the manifest neglect of the more important therapeutics, and that, in his efforts to give us a detailed account of the physiological action, he has multiplied details and experiments to a perplexing and tedious extent. Instead of deriving benefit from detailed accounts of experiments, many of which are conflicting and cannot be reconciled, the student or average practitioner, being unable to rightly weigh the evidence, fails to profit by their study. We know whereof we speak, having attempted to use the work as a class-room text-book. We objected also strongly to his classification.

Dr. Bartholow has adopted an entirely different plan. The portions devoted to therapeutics are proportionately longer and fuller, and, while "attempting as far as practicable to base them on the physiological actions," he has not omitted "the many well-established empirical facts." In his account of the physiological action of the medicine, as he says in his preface, he has attempted "to condense in a connected description that view of the subject which seems to the author most consonant with all the facts"—thus opposing, in a great measure, the methods adopted by Wood.

In his classification he differs also radically from Dr. Wood. Instead of dividing the remedies into distinct classes with separate names, he considers together "those used to promote constructive metamorphosis, those used to promote destructive metamorphosis, those used to modify the functions of the nervous system, those used to cause some evacuation from the body, and topical remedies.

The book is divided into three parts. In Part I. we have an account of the modes in which medicines are introduced into the organism, viz., by the external integument, internal integument, subcutaneous areolar tissue, and veins. In speaking of insufflation we cannot agree with our author in thinking that it is of little utility as a means of reaching the larynx and trachea. Certainly in the hands of any one accustomed to the use of the laryngoscope the insufflator becomes a most useful adjunct in treating the diseases of these parts. We are glad to see that the nasal douche is put at a proper estimate.

Why cannot we get rid of the terms *pulverization* and *atomization* as applied to spray-production? Finely divided drops of water are neither powders nor atoms. We recommend this to Dr. Bartholow's consideration. Under the head "by the veins" we have a fair account of transfusion, a subject little taught in text-books, which will be very acceptable to students. This part, occupying only sixteen pages, contains much that is useful and important; matter which is usually either omitted, or left in part to an introduction and in part scattered here and there through the text.

Part II. begins the study of the actions and uses of remedial agents, and first of those used to promote constructive metamorphosis. Here we have the aliments, special plans of diet, and a useful and suggestive chapter on alimentation in disease.

This is followed by an article on water and hydrotherapy. This brings us to drugs proper—pepsin heading the list, followed by the mineral acids, fats, phosphorus, iron, including chalybeate mineral springs, arsenic, bitters, cinchona, etc. In the second group, agents increasing waste, we find the alkalies, alkaline and saline mineral waters, ammonia, sulphurous acid and sulphites, sulphurous mineral water, iodine, nearly all the metals, and tannic acid, and remedies containing it.

The next class is made to contain remedies used to modify the functions of the nervous system—subdivided into agents whose most important quality consists in exciting functional activity, as electricity, nux-vomica, digitalis, etc.; agents exciting the functional activity of the cerebrum, such as camphor, asafœtida, valerian, and serpentaria; agents which diminish or suspend the functions of the cerebrum after a preliminary stage of excitement—here we have alcohol and the various wines, the anæsthetics, chloral and opium; and, lastly, agents which depress the motor functions of the spinal cord and sympathetic, among which are included conium, gelsemium, trimethylamine, jaborandi, amyl nitrate, and aconite.

The next group includes evacuants, emetics, purgatives, anthelmintics, and the "urino-genital" remedies.

Part III. is taken up with topical remedies, antiseptics, where we have good articles on oxygen and salicylic acid, and counter-irritants. This last chapter is quite full and includes firing, acupuncture, Braunscheidtismus, aquapuncture, and bloodletting.

So much for the scope of the work; it includes nearly all the therapeutic agents which are ordinarily used, some of which are rarely treated of in general text-books.

Many objections could be urged to the classification, especially that it groups together remedies which, although perhaps coming near together in some stages of their action, are widely different in those which are sought to be produced in their therapeutic application; for examples, we may refer to conium and veratrum viride. Dr. Bartholow does not, however, claim that his classification is free from defects. It certainly has the advantage which he claims for it, viz., simplicity, and it gives no misleading names to the individual articles. A simple grouping of the remedies seems to us preferable, but we have so recently given our views on this subject that we will not again inflict them on our readers.

In the consideration of the different drugs, very little space is devoted to a description of the drugs and their preparations. Necessary details only are given. Take for instance nux-vomica. First, there is the definition or description, then the French and German names; next the different preparations with their dose—the dose of the tincture is too small—then the composition and a description of strychnia and its sulphate. Following this we have the antagonists or antidotes and incompatibles; the synergists or agents which aid therapeutic action; an account of physiological action; and, last, therapy, with a special section on the hypodermic injection of strychnia. At the end of each article we have a list of the authorities referred to, in true German style. This is the first time we remember to have seen this excellent plan adopted in an American book. The toxicology is not at all elaborated. The section devoted to physiological action is short, covering only two pages, as compared with six in Wood. There are nearly five pages devoted to therapy, as compared to less than two allowed by Wood. To those familiar with Dr. Wood's work, this will give a very fair idea of the difference in the plans of the two books.

The addition of articles on alimentation and the article on bloodletting, acupuncture, and kindred subjects, the accounts of hydrotherapy, the descriptions of the different mineral waters, and the article on electricity, which is quite full, render this, as far as the subjects treated of go, one of the most complete of the text-books on the subject.

We might point out a number of mistakes, which no doubt will be corrected in another edition. The doses are not always stated as carefully as they should be. The tincture of nux-vomica we have already noticed. Under the head of glycerine it is stated that glycerine does not dissolve carbolic acid, while in the article on acid it is stated that glycerine dissolves it freely. Other such instances might be mentioned.

Taken as a whole, the work before us is a most valuable addition to the literature of the subject, and, although not by any means perfect, it is generally very satisfactory.

The parts devoted to the consideration of the physiological action are the weakest portion of the book. In his efforts to "condense into a connected description" his views of the subject in question, the author has often condensed too much. These portions lack clearness and method, and do not always place before the mind of the reader a clear clinical picture of the effects produced, nor do they always give a perfectly satisfactory statement of existing knowledge on the points involved. The portions devoted to therapeutics, although tinctured somewhat by the author's peculiar views, are fuller, clearer, and on the whole much more satisfactory. Rather too many formulæ are given, taking up much space which might be filled to better purpose.

We think Dr. Bartholow has deserved the thanks of all those engaged in teaching this branch, and we predict a general adoption of his work as a text-book by our medical colleges. Already two of our New York colleges have done so, and we heartily recommend it to others who must have felt a need for such a text-book. Nor for the student only is the book of use. The practitioner also may derive much benefit from its study, and find many valuable hints to aid him in his daily rounds.

Art. II.—*Medico-Legal Experience in the Bengal Presidency: being a Report on the Medico-Legal Returns received from the Civil Surgeons of Bengal during the Years* 1868 *and* 1869. By Kenneth McLeod, A. M., M. D., Surgeon, Bengal Army. Calcutta, 1875.

All the way from Hindostan, we have, in this little volume of one hundred and forty-one pages, a most entertaining and instructive record of medico-legal experience in that far country. It comes in the shape of a report prepared at the request of the inspector-general of hospitals, for presentation to the Government of India, whose intention it is to follow it by others in regular sequence, so that the world at large may profit by the experience of the Indian civil service in this regard.

It were impossible to give, within the limits of a short notice like the present, an adequate idea of the contents of this little volume; the reader must therefore be content with a few short abstracts taken at random from the abundant matter it contains.

The greatest obstacle to the prosecution of medico-legal inquiry in India is one which all the wisdom of the Government cannot remove: it is simply climate. Dead bodies rapidly putrefy in the sustained heat of that region; and though devices have been used, and, so far as they go, successfully, to prevent this speedy decomposition, yet they cause so much delay in the performance that their result is practically valueless. Then, again, the want of rapid transit, and the long distances over which the dead have often to be transported ere they reach the nearest civil station, do but add to the difficulty. "In some districts," says the report, "days may elapse before a corpse can be conveyed to the *sudder* station from a remote outpost, and, during the hot weather and rains, decomposition advances hourly." In addition to these obstacles, which are more or less insurmountable, there was another not so difficult of removal. No instruction having been provided in medical jurisprudence, the native Indian doctors remained in deplorable ignorance of that subject. And not only this, but their medical knowledge was so defective that, to use the language of the report, they were "unable to display and remove the organs properly, far less to judge of the value of their pathological modifications." Lately, however, as we are informed, students of the Bengalee and military classes are put through systematic instruction in medical jurisprudence, and in future this department of the Indian civil service will be conducted with the necessary knowledge and skill. Indeed, the good result of instruction is already apparent: the reports sent in to the medical department in Bengal are more minute and accurate than formerly, and, in consequence, there is a brighter prospect of utilizing the important medico-legal experiences of the vast and populous land of Hindostan, for the benefit of mankind generally. In many interesting points these experiences are peculiar; for example, wounds inflicted by blunt weapons form fifty per cent. of all kinds of violence to which men, women, and children, are liable in Bengal; and this fact is one growing out of the custom of carrying blunt weapons, a custom almost universal in that country. Every grown-up native has always ready at hand a cylindrical bamboo stick, sometimes encircled with rings of iron, called a *latee;* and, whether attacked or attacking, he is prone to use it somewhat freely over the heads of his enemies; hence wounds of the skull and brain constitute a large majority (the report says fully nine-tenths) of all the injuries inflicted by blunt weapons in India.

Again, one of the most customary modes of inflicting extra-judicial punishment for unfaithfulness in a wife or a mistress, particularly in Upper India, is by branding; and for this purpose three familiar instruments, the *chillium* (tobacco-pipe), the *shake* (spit), and the *kurchhool* (iron spoon), are ever at hand. The brands are inflicted on the cheeks, abdomen, pudenda, and thighs. The instrument used is made red-hot before applying it to the victim, on whom it imprints an indelible mark of disgrace. The custom is not sanctioned by Hindoo law or religion, but has probably existed from very ancient times as a private means of punishing unlawful sexual indulgence.

Once more, suicide, as every one knows, is a customary mode of death throughout the East, and especially in India, though its frequency there has decreased under the wise administration of the British Government. The customary modes of self-destruction are by hanging, drowning, and taking poisons. Contrary to the experience of Europe and America, the greatest number of suicides occurs among the female sex; but in India, as elsewhere, bodily diseases enter largely into the causation of the act, and of these the most common would seem to be disorders of the abdominal organs. These disorders have an extremely depressing effect in the lower provinces, where the pain caused by bad rice, inflamed spleen, worms, gastric ulcer, inflamed intestines, etc., is frequently the incentive to suicide.

Suicidal drowning is common in Upper India, where the wells are numerous, deep, and unprotected. Homicidal and accidental drownings occur also in wells, though they are more frequent in rivers and tanks.

The poisons most frequently selected for the purpose of inflicting death are opium, arsenic, and Indian hemp. The cases of poisoning by opium are, with exceedingly rare exceptions, suicidal, while those from Indian hemp are almost as regularly homicidal. The bitter taste of opium renders it easy of detection, and is therefore a bar to its use as a means of killing others. As to arsenic, it appears to be sometimes used for suicide, at other times for homicide, though its employment for the latter purpose is the more common of the two.

We have now given a few of the many peculiarities of Indian medical jurisprudence which render this little volume of special interest. We wish we could give more, but the limits of our space forbid. There are, for instance, some very entertaining pages on abortion and infanticide as practised in Bengal; and the concluding paragraphs on weapons and motives deserve to be transcribed in full; all the more so, perhaps, since the book itself is not likely to meet the eyes of a majority of medico-legal students.

It is the intention of the Government of India to issue one such report annually. A series of year-books, giving the pith of the medico-legal experiences of an entire people, is a novelty indeed, but at the same time one of almost inestimable value. Other governments might well follow the example. A vast mass of what is rare as well as ordinary in medico-legal experience is lost forever to the world for want of some such system as that adopted by the Bengal authorities. "Year by year," says the report before us, "much and valuable unfixed experience has been lost by death, departure from the country, and fading of facts or circumstances from the memory, and it is not too much to affirm, when the close study of a mass of valuable records has been completed, that if the medico-legal experience acquired by each medical officer who has held civil office in India since the British occupation had been continuously fixed, and the results of the experience of all arranged, compared, and generalized, a magnificent body of ethnological and medico-legal science of vast practical utility would now exist which has passed away irretrievably." These remarks have ceased to be applicable to Bengal, where for the last eight years there has existed an organized system for collecting, comparing, and sifting medico-legal experiences, but they are eminently true of ourselves, whose experiences in the same field are still wasted and neglected.

Art. III.—*Compendium of Histology.* Twenty-four Lectures by Heinrich Frey. Translated from the German by George R. Cutter, M. D., Assistant Surgeon to the New York Eye and Ear Infirmary, etc. New York: G. P. Putnam's Sons, 1876.

From the pen of Prof. Frey, of the University of Zürich, we have already had a treatise on the "Microscope and Microscopical Technology," and a book on "Histo-Chemistry and Histology." The former has reached a fifth and the latter a fourth edition, in Germany, and both are known to English readers by excellent translations. They are certainly the best text-books on their respective subjects.

In this volume the author seeks to give "a short compend of the most essential facts." There are twenty-four lectures, in two hundred and sixty-three pages, with two hundred and eight illustrations. The general plan of the book is that of the treatise on "Histology," which has been fully noticed in these pages (July, 1875). It is not, however, a mere abstract of the earlier work. The subject-matter has been differently arranged, and rewritten, to suit the purposes of this volume, in a style that is easy and readable. The author has done more than state facts, for, on questions that are still undecided, he gives a fair statement of conflicting views, as on the genesis of bone, for instance, where he sides with Kölliker in supporting the formation from osteo-blasts, yet does justice to the "resorption" theory of Strelzoff. In regard to the relation of lymph-vessels to connective-tissue spaces, he has modified his views as given in the last edition of his "Histology." He takes exception (with His, Langer, and others) to the statement of Recklinghausen, that any communication exists between these structures, although he acknowledges the opening of the lymphatics into serous cavities, as proved by Recklinghausen in the diaphragm of the rabbit. As to the mode of origin of the spermatozoa, he expresses confidence in the recently-advanced views of Von Ebner, that they are formed through the medium of the so-called "spermat-blasts" from the parietal cells of the seminiferous tubes. He accepted, in an earlier work, Henle's view, that they came directly from the nuclei of the cells. These modifications of opinion in matters that are still *sub judice* indicate that the author has been mindful of the progress of histology. This is further shown in the introduction of several new diagrams of kidney-structure, and in the description of the Bathybius, Protamœba, and Amœba, in the first lecture.

The volume is in all respects creditable to the publishers, and we have no hesitation in pronouncing it a very satisfactory book. It is bound to find favor with students, and will certainly satisfy the wants of most practitioners. The translator has had no easy task, as all must admit who are acquainted with Prof. Frey's works in the original. On the whole the translation is excellent, but there are certain imperfections which should not pass unnoticed. Such are the expressions "cell-complex," "canal-work," and the following sentence (p. 21), which the reader may decipher at leisure: "Tissues of simple or metamorphosed cells with partly still homogeneous, partly fibrous, and not rarely more firm intermediate substance."

ART. IV. — *Contributions to Reparative Surgery.* By GURDON BUCK, M. D. Illustrated. New York: D. Appleton & Co., 1876. Pp. 237.

AMONG the living surgeons of this city there is no one to whom the profession more gladly does honor than to the author of this book. By a long life laboriously spent in the practice of his profession, under the guidance of the utmost sincerity of purpose and a truly scientific spirit, he has accumulated a fund of well-elaborated experience, upon which his friends and colleagues are always eager to draw.

In the book now before us Dr. Buck has collected twenty-nine typical cases of plastic surgery, a branch in which he has made an especial reputation; and, in addition to the record of the ingenious devices by which the different problems were met, he has formulated the general principles of operation upon this class of cases as they have been brought out by his experience. Moreover, he has represented by woodcuts the appearance of each patient before the operation, and several years after it, at a time when no further change in the result by the contraction or absorption of the cicatrices or flaps could be expected, so that the reader is in a position to judge of the practical value of the operation. For the sake of those who are indisposed to trust to the accuracy of a woodcut, photographs, numbered to correspond with the cases, have been deposited in the Museum of the New York Hospital, and in the Army Medical Museum at Washington.

The book, as thus arranged, is an admirable indication of what may be attempted and accomplished by plastic operations, as well as of the means, general and special, by which these operations can be made successful.

The twenty-nine cases have all been taken from the author's case-books, and are arranged in three groups. The first deals with the "loss of parts involving the face, and resulting from destructive disease or injury," and contains ten cases. The second, fifteen cases, is confined to "congenital defects from arrest or excess of development;" ten of these are cases of harelip. The remaining constitute the third group, "cicatricial contractions following burns," implicating the face, neck, hand, and arm.

The woodcuts are far superior to those usually found in medical books, the type is large and clear, the paper good, and the margins broad. In short, it is a pleasant as well as a profitable book to read.

ART. V.—*Report on Vaccination, read before the Ohio State Medical Society, Put-in-Bay, June* 20, 1876 *: being an Inquiry concerning Human Vaccine, Vaccino-Syphilis, and Animal Vaccine ; with an Appendix containing Letters from Hebra, Sigmund, Seaton, M. Guerin, Zeissl, Neumann, and Widerhofer.* By WILLIAM B. DAVIS, A. M., M. D., etc. 8vo, pp. 32. Cincinnati : A. H. Pounsford & Co., 1876.

Vaccination as a Preventive of Small-pox. By W. C. CHAPMAN, M. D. 8vo, pp. 91. Toledo: Brown & Faunce, 1876.

AMONG the conclusions of the first of these pamphlets are the following :

" *Syphilis cannot be transmitted by humanized vaccine lymph*, unless syphilitic pus, tissues, or blood, be mixed with the vaccine lymph. When proper precautions are used, such contaminations can be avoided.

" *Animal vaccine—particularly cow-pox lymph and regenerated cow-pox lymph*—is very difficult to take, unduly severe in its action when it does take, will not bear transportation or preservation with any degree of certainty, and does not afford the same degree of protection against small-pox as humanized vaccine lymph.

" While it may not transmit syphilis, *it has transmitted charbon and typhus*, which are more dangerous to life than syphilis. "

Dr. Chapman's pamphlet is more in the form of a treatise, and more elaborate than that of Dr. Davis. He holds that, while it may be that syphilis is conveyed during vaccination by the admixture of either blood, pus, or tissues, with the lymph, yet it is not always certain that the admixture can be avoided. Hence he holds that the vaccinifer should always be a healthy subject. As regards the protective influence of bovine virus, Dr. Chapman is of the opinion that, while it acts more severely, it takes quite as readily, and protects just as perfectly, as humanized lymph.

Art. VI.—*The Anatomy of the Head, with Six Lithographic Plates representing Frozen Sections of the Head.* By Thomas Dwight, M. D., Professor of Anatomy at the Medical School of Maine; Instructor in Histology at Harvard University; Surgeon at the Carney Hospital, and at the Boston Dispensary. Boston: H. O. Houghton & Co., 1876.

In this little volume the author has given a very careful and clear description, not only of the head, but also of all those parts which are situated above the hyoid bone. These regions are described just as they exist in Nature, without the aid of elaborate dissection; and it is this valuable knowledge which he seeks to impress upon the mind of the student. To accomplish this object he has resorted to frozen sections of the body, a most useful method of teaching anatomy. Several plates illustrating these frozen sections are given, and are valuable for reference. We feel sure that the views of the author, as expressed in his preface, in regard to the way in which anatomy should be studied, viz., to gain an idea of the body as it exists in life, is the correct one; and we have no doubt that his work will be kindly received by all who are engaged in anatomical studies.

Art. VII.—*Epitome of Skin-Diseases, with Formulæ. For Students and Practitioners.* By Tilbury Fox, M. D., F. R. C. P., Physician to the Department of Skin-Diseases in University College Hospital; and T. C. Fox, B. A. (Cantab.), M. R. C. S. Philadelphia: Henry C. Lea, 1876.

The systematic treatise on "Skin-Diseases," by Dr. Tilbury Fox, is well known to the profession here, and has been very favorably received. The present book is intended not to supplant the larger work in any way, but to provide a pocket treatise for the student, combined with a ready-reference book for the practitioner. Of a total of one hundred and twenty pages, seventy are devoted to the description of the diseases, alphabetically arranged, with their proper treatment, which is made more useful by references to the twenty pages of "Cutaneous Pharmacopœia" at the end of the volume. Sections are devoted to the "Indications for the Study of Skin-Diseases," "Elementary Lesions," "Classification, Diagnosis, Causes, and the General Principles of Treatment." A very clear and concise description is given of the elementary lesions, and the authors' remarks on the general character, complications, and modifications of eruptions, together with their practical hints on the examination of skin-diseases, will be of great assistance to the novice in this department of medicine. The section on diagnosis, however, contains but a few *general directions*, and nowhere do we find such points in the differentiation of diseases as are invaluable to the beginner. The reader is left to evolve them from reading the descriptions. This deficiency impairs the usefulness of the volume. With this exception, the book answers satisfactorily the purposes of its authors, and we know of no other which, in so little space, contains so much reliable information.

ART. VIII.—*Autumnal Catarrh (Hay-Fever), with Illustrative Maps.* By MORRILL WYMAN, M. D., etc. 8vo, pp. xii.–221. New York: Hurd & Houghton, 1876.

Hay-Fever; or, Summer Catarrh: its Nature and Treatment. Including the Early Form, or "Rose Cold;" the Later Form, or "Autumnal Catarrh;" and a Middle Form, or "July Cold," hitherto undescribed. Based on Researches and Observations, and containing Statistics and Details of Several Hundred Cases. By GEORGE M. BEARD, A. M., M. D., etc. 12mo, pp. 266. New York: Harper & Brothers, 1876.

BOTH of the volumes before us are very practical treatises, and are good expositions of the subject of which they treat. Which of the two is the more practical it may be difficult to determine; but it will be safe for any one desiring to become familiar with hay-fever to study both books. Dr. Wyman's book seems to be written more especially for the professional reader, while Dr. Beard's treatise is dedicated to "the Officers and Members of the United States Hay-Fever Association," and, consequently, intended more for a popular treatise.

As regards theories, there is some diversity of opinion between Dr. Wyman and Dr. Beard, although the former advances very cautiously upon questionable ground. Dr. Wyman regards the June cold as distinct from the autumnal catarrh, while Dr. Beard regards all the varieties as one and the same. Dr. Beard considers it essentially a nervous disease, influenced more or less by certain exciting causes, as heat, light, certain vegetable growths, etc. Dr. Wyman, on the contrary, regards a faulty nervous condition only as one of the factors of hay-fever so called.

Both books are published in good taste.

ART. IX.—*C. E. Hobbs's Botanical Hand-Book of Common Local, English, Botanical, and Pharmacopœial Names, arranged in Alphabetical Order, of most of the Crude Vegetable Drugs, etc., in Common Use: their Properties, Productions, and Uses, in an Abbreviated Form, especially designed as a Reference-Book for Druggists and Apothecaries.* In Three Parts. Compiled and published by Charles E. HOBBS. Boston: Printed by CHARLES C. Roberts, 1876.

THIS work was compiled and arranged with the view of bringing together the various popular and local names of plants in general use, and, by setting them opposite the botanical names, to fix definite meanings to the former. The necessity for some effort in this direction is apparent when we find that one name is often given in different regions to entirely different plants, and that the same plant has often several names. It appears that there are about a dozen plants known as "snakeroot," while *Eupatorium perfoliatum* has no fewer than twelve English names.

The author seems to have taken special pains to make his lists of plants complete, and by a threefold division it is made a simple matter to ascertain either the botanical from the popular name, or the reverse. The work will be very useful to druggists, and acceptable to all who are interested in botanical studies.

Art. X.—*A Medical and Surgical Directory of the State of Iowa, containing Names, Post-Office Addresses, and Professional Status of Physicians of the Medical Societies, Names and Residences of Officers, and a List of Members; a Roster of United States Examining Surgeons. Also the Code of Ethics of the American Medical Association, of the American Institute of Homœopathy, and of the National Eclectic Medical Society, etc., etc.* By Charles H. Lathrop, M. D., Lyons, Iowa. T. C. Hopkins, 1876.

This is the first work of the kind that has been published in the State of Iowa, and it is evidently the result of much patient and careful labor. The names of the physicians of each county are given separately, and, after a large proportion of the names, the place and date of graduation. Full records of all the medical societies are given, besides information regarding all the medical colleges, hospitals, homes, and other institutions in the State. Dr. Lathrop deserves much credit for the success of his undertaking. In a subsequent edition he will doubtless be able to supply all the deficiencies of the first volume.

Art. XI.—*A Manual of Percussion and Auscultation; of the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism.* By Austin Flint, M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, etc. Philadelphia: Henry C. Lea, 1876.

The pupils of Prof. Flint, whose name is legion, will be pleased to find in this unpretending little volume the substance of the lessons which the author has been accustomed to give for many years, on the subject of percussion and auscultation. We need only say of the work that it is one of great practical value in regard to diagnosis of diseases of the lungs and heart, and that, while small in compass, it omits no detail of importance. The author's clear and logical treatment of his subject is unmistakable, and the work is written in that terse and vigorous style that has rendered him so popular in the lecture-room.

ART. XII.—*Day-Book, Ledger, and Cash-Book, simplified and combined, for the Use of Physicians.* By ALEXANDER J. C. SKENE, M. D. Brooklyn: A. H. Rome & Bros.

THIS form of physician's ledger is the result of the author's experiments in developing a system of book-keeping "which would give correctness and convenience with the least possible labor." Any method that will enable the physician to dispense with the irksome details of ordinary book-keeping will certainly be welcome. Dr. Skene's plan is a very simple one, intelligible at a glance, and adapted equally well to either a large or a small number of patients. There is probably a great diversity among physicians in the manner of keeping accounts, and each one is apt, from habit, to believe his own plan the best; but for simplicity and economy of labor the book before us seems to possess special advantages, and it will certainly repay examination.

ART. XIII.—*Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the United States Pharmacopœia. A Manual on the General Principles of the Science, and their Applications in Medicine and Pharmacy.* By JOHN ATTFIELD, Ph. D., F. C. S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Seventh edition. Revised from the sixth (English) edition by the author. Philadelphia: Henry C. Lea, 1876.

THIS is decidedly one of the best hand-books of chemistry for the medical student, and the author has taken special pains in each successive edition to keep it as nearly as possible abreast with the progress in chemical science in its applications to pharmacy. The seventh edition contains notices of many new substances, cuts of apparatus for the study of experimental chemistry, and a number of new microscopic views.

Art. XIV.—*An Introduction to Pathology and Morbid Anatomy.* By T. Henry Green, M. D., London, Fellow of the Royal College of Physicians, London, Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital Medical School, etc., etc. Second American, from the third revised and enlarged English edition. Illustrated by One Hundred and Eleven Engravings on Wood. Philadelphia: Henry C. Lea, 1876.

We have already spoken very favorably of this work, and the new edition contains much added matter and a large number of new woodcuts. Notwithstanding the fact that there are several other and larger volumes on the same subject, we still think that of Dr. Green one of the most useful and practical, and likely in its present improved form to remain a favorite text-book.

Art. XV.—*Transactions of the College of Physicians of Philadelphia.* Third Series, vol. ii., 8vo, pp. lviii.–186. Philadelphia: Lindsay & Blakiston, 1876.

This is a very interesting number of the "Transactions" of the College, containing memoirs of Drs. Norris and Parry, and thirteen interesting articles upon practical subjects. We can hardly select from the articles a subject for comment without doing injustice to others equally interesting. We will state, however, that Dr. Ashhurst, in his article on "Excision of the Knee," etc., prefers the transverse incision to either the H or U; also that Dr. Mitchell furnishes some very interesting "Cases illustrating Local Injuries of Nerves, and their Trophic Consequences, with Comments." The volume matches the former ones in beauty of style.

Art. XVI.—*A Surgical Study: Gastrotomy and Gastrostomy.* By J. H. Pooley, M. D., etc. 8vo, pp. 27. Columbus: Nevins & Myers, 1876.

In the author's table of cases of gastrotomy for the removal of foreign bodies in the stomach, only one in eleven died; but, while in every reported case of gastrostomy, or the establishment of a fistulous opening for disease, the patient died, the author still supports the propriety of operating, basing his views mainly on the fact that some cases, arising from accident, have ended in recovery.

Art. XVII.—*Fourth Annual Report of the Board of Health of the City of Boston*, 1876. 8vo, pp. 91. Boston: Rockwell & Churchville, 1876.

Among the articles contained in this report, an elaborate one on "Infant Mortality," by W. L. Richardson, M. D., is the most valuable. Other articles, tables, charts, etc., are also very practical, and worthy of study. The volume, like its predecessors, illustrates what the physicians of Boston are doing for the public health.

Art. XVIII.—*Combined Call-Book and Tablet.* By Ralph Walsh, 227 4½ Street, Washington, D. C.

The edition of this useful little pocket-book for 1877 is considerably improved, and makes a very convenient form of visiting-list, allowing greater latitude as to dates than most of the books of the kind in use. It occupies very little space in the pocket.

Art. XIX.—*The Physician's Visiting-List for* 1877. Twenty-sixth year of its publication. Philadelphia: Lindsay & Blakiston.

This useful little annual is so well known that it needs no special commendation. After twenty-six years' experience the publishers have been able to adapt it perfectly to the wants of a very large class of practitioners.

Books and Pamphlets received.—A Century of American Medicine, 1776–1876. By Edward H. Clarke, M. D., Late Professor of Materia Medica in Harvard University, etc.; Henry J. Bigelow, M. D., Professor of Surgery in Harvard University, etc.; Samuel D. Gross, M. D., LL. D., D. C. L. Oxon., Professor of Surgery in the Jefferson Medical College, etc.; T. Gaillard Thomas, M. D., Professor of Obstetrics, etc., in the College of Physicians and Surgeons, New York, etc.; and J. S. Billings, M. D., Librarian to the National Medical Library, Washington, D. C. Philadelphia: Henry C. Lea, 1876.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M. D., London, F. R. C. P., Physician to St. Thomas's Hospital, Joint Lecturer on Medicine at the School, Lecturer on General Pathology and on Physiology at St. Thomas's Hospital, etc. Edited, with Notes, by James H. Hutchinson, M. D., one of the Attending Physicians to the Pennsylvania Hospital, etc. Philadelphia: Henry C. Lea, 1876.

Principles of Human Physiology. By William B. Carpenter, M. D., F. R. S., F. G. S., F. L. S., etc. Edited by Henry Power, M. B., London, F. R. C. S., etc. A new American, from the eighth revised and enlarged English edition, with Notes and Additions. By Francis G. Smith, M. D., Professor of Institutes of Medicine in the University of Pennsylvania, etc. Philadelphia: Henry C. Lea, 1876.

A Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. II., No. VIII. (whole number twenty). The Hypertrophied Prostate. By Robert T. Weir, M. D., Lecturer on Genito-Urinary Diseases in the College of Physicians and Surgeons, New York, and Surgeon to the New York and Roosevelt Hospitals. New York: G. P. Putnam's Sons, 1876.

Surgical Observations on Gunshot-Wounds of the Hip-Joint. By B. von Langenbeck, Professor of Surgery in the University of Berlin, etc., etc. Translated by James F. West, F. R. C. S., Senior Surgeon to the Queen's Hospital, and formerly Professor of Anatomy in Queen's College, Birmingham. Pp. 64.

The Use of the Spectroscope in its Application to Scientific and Practical Medicine. By Emil Rosenberg, M. D. (The essay to which was awarded the Stevens Triennial Prize for 1876, by the College of Physicians and Surgeons.) With Illustrations. New York: G. P. Putnam's Sons, 1876.

Epitome of Skin-Diseases, with Formulæ, for Students and Practitioners. By Tilbury Fox, M. D., F. R. C. P., Physician to the Department for Skin-Diseases in University College Hospital, etc.; and T. C. Fox, B. A. (Cantab.), M. R. C. S. Philadelphia: Henry C. Lea, 1876.

Hygeia, a City of Health: a Presidential Address delivered before the Health Department of the Social Science Association at the Brighton

Meeting, October, 1875. By Benjamin Ward Richardson, M. D., F. R. S. London: Macmillan & Co., 1876.

Bloodletting in Puerperal Eclampsia, Pathology, and Therapeutics: the Old and the New. By Henry Fraser Campbell, M. D., Augusta, Ga. Reprinted from the August number of the *American Journal of Obstetrics.*

Remarks on the Nature of the Diphtheritic Poison, and its Treatment by so-called Disinfectants. By Beverly Robinson, M. D. Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children*, June, 1876.

Salicylic Acid: The Experience of Maine Physicians in its Use. Reported by Frederick Henry Gerrish, M. D., Portland, Me. Reprinted from the "Transactions of the Maine Medical Association," June, 1876. Pp. 15.

A Case of Double Optic Neuritis without Cerebral Tumor. Case of Large Cerebral Tumor without Optic Neuritis, and with Left Hemiplegia and Imperception. By J. Hughlings Jackson, M. D.

The Codes of Medical Ethics, American Medical Association, American Institute of Homœopathy, National Eclectic Society, and Advertiser. Arranged and compiled by C. Henri Leonard, A. M., M. D. Detroit, 1876.

Klinik der geburtshülflichen Operationen. Von Dr. Heinrich Fritsch, practischer Arzt u. Privatdocent a. d. Universität Halle. Halle: Max Niemeyer, 1876.

Handbuch der Staats-Arzneikunde für Aerzte, Medizinalbeamten und Gesetzgeber. Bearbeitet von L. Krahmer, Kreisphysikus und Professor. Zweiter Theil. Hygiene. Halle: Max Niemeyer, 1876.

Transactions of the Medical Society of the State of Pennsylvania, at its Twenty-seventh Annual Session, held at Philadelphia, May 31 and June 1, 1876. Vol. XI., Part I. Published by the Society.

Proceedings of the Medical Society of the County of Kings, Brooklyn, N. Y., November, 1876. Vol. I., No. IX.

Tenth Annual Report of the Board of Trustees of the Connecticut Hospital for the Insane, 1876.

Transfusion of Blood in the Last Stages of Phthisis. By Joseph W. Howe, M. D. Reprinted from the *Archives of Clinical Surgery*, July, 1876.

The *Journal of Anatomy and Physiology*, Vol. XI., Part I., October, 1876. Macmillan & Co.

Johns Hopkins Hospital. Report and Papers relating to Construction and Organization. No. 2. With Plates.

Transactions of the New Hampshire Medical Society. Eighty-sixth Anniversary, held at Concord, June 20 and 21, 1876. Pp. 176.

Reports on the Progress of Medicine.

CONTRIBUTED BY DRS. GEORGE R. CUTTER, EDWARD FRANKEL, SAMUEL B. WARD, E. H. BRADFORD, AND W. T. BULL.

SURGERY.

Fat-Embolism.—This is the subject of a lengthy editorial in the *Medical Times and Gazette*, of January 8, 1876, founded mainly on an essay from the pen of Prof. Czerny, of Freiburg, published in the *Berliner klinische Wochenschrift* (Nos. 44 and 45). As long ago as 1862 two German pathologists—Zenker and E. Wagner—discovered that embolism could be produced in the lungs by fat introduced into the venous circulation. In 1866, F. Busch actually published a case in which death resulted from fat-embolism, and proved by experimental considerations that in fractures of the long bones the fat which is contained in the crushed marrow can be taken up by the veins, be carried by them to the lungs, and there embolize the capillaries. Busch's paper has attracted so little attention that writers like Verneuil, Bell, and Tillaux, who have specially treated of sudden death as the result of trifling injuries, have made no mention of the possibility of this singular accident.

Prof. Czerny's patient sustained a simple transverse fracture of the right thigh, by falling from a scaffold. He complained but little, and the only symptom which specially attracted the professor's attention, or alarmed him, was the unusually high temperature, which reached 102.6° Fahr. on the second day, and 103.3° on the third. About thirty hours after the accident the night-nurse was alarmed by the patient's loud and rattling breathing, and, on examination by the house-surgeons, he was found quite comatose, with cyanotic countenance, and breathing deeply and rapidly. The normal breath-sounds were inaudible on auscultation, owing to the presence of loud, bubbling *râles;* while the percussion-note was clear and tympanitic. The pulse was 100, full and strong; the pupils were much contracted and insensible to light. All efforts to revive the patient failed, and he died thirty-eight hours after the injury.

Microscopical examination of any part of the lungs showed that the smaller arteries and capillaries were filled with clear fluid fat, which seemed to be distributed in almost equal abundance over the whole of both lungs. In the brain, branching fat-embolisms were detected in considerable number in those vessels corresponding to small ecchymoses. In the kidneys the vessels of the glomeruli contained abundance of fat, and in the liver there were fat-drops as large as a blood-corpuscle in the intra-acinous vessels. "Putting aside the embolic infarctions in other organs, and taking account of those of the lungs alone, there can be scarcely a doubt that the latter were sufficient to cause death."

The correct diagnosis, made by Prof. Czerny before death, was formed on the following grounds: 1. There were no symptoms of any injury to internal organs; 2. Shock could be excluded with considerable certainty, since there had been a distinct interval between the time of the accident and the onset of the serious complications which terminated in death, and during this interval the patient had been in the full possession of his faculties; 3. Morphia-poisoning was not likely to be produced in an adult man by two centigrammes (three-tenths of a grain) of morphia given in two doses, four hours apart, and it was proved that the dispenser had made no mistake; 4. The leading symptoms which preceded death pointed to the lungs as the seat of mischief, and it was unlikely that the disturbance in these organs was due to the detachment of a venous thrombus, since this event seldom occurs before the eighth day, whereas fat-embolism usually begins (according to Dr. Busch's experiments) in the first few hours after a bone has been fractured.

Since the artificial production of fat-embolism in the lower animals does not cause a rise of temperature, but rather the reverse, there seems no reason to suppose that such would be the effect in the human subject. And since human fat melts at a temperature of 59° to 77° Fahr. (according to Kolbe), it does not seem credible that the fever which was present in Prof. Czerny's case could have been in any way the cause of the embolism. No explanation of the relationship between the two, if any exist, has yet been given.

Experiments have been made by Czerny, on the lower animals, of injecting into the circulation alkaline solutions, either at the same time with, or after, a previous injection of fat; but the result has never been anything more than an apparent temporary improvement. He is therefore unable to suggest any line of treatment which is likely to be beneficial to the patient.

In the *Boston Medical and Surgical Journal* of February 17th may be found notes of a meeting of the Boston Society for Medical Improvement, held on January 10, 1876, at which Dr. Fitz alluded to a case, under the care of Dr. Cabot, at the Massachusetts General Hospital, of compound fracture of the thigh, which died eight days after admission.

At the autopsy, in many of the branches of the pulmonary artery, both of the hepatized and aërated portions of the lungs, fat-drops were found which could be readily forced into the network of alveolar capillaries. It was not evident that the solidified portions of the lungs contained more than the relatively healthy parts. The prominent symptoms being those commonly referred to as from shock, the question naturally arises how far they, and perhaps the pneumonia, were to be attributed to the fat-embolism. In the recorded cases of Wagner and Bergmann, as well as in the experiments of Busch, death had taken place much earlier, from œdema of the lungs. The brain was not examined; this omission is to be the more regretted, because a strong degree of probability exists that oil-globules are present in the cerebral capillaries in such cases, as well as in the lungs and elsewhere.

On November 5, 1876, I was present, at the invitation of Dr. Wm. H. Bailey, of Albany, at the autopsy of a patient of his, who had died unexpectedly suddenly, some four weeks after the receipt of what appeared at the time to be an unimportant flesh-wound on the outer side of the left leg, just over the head of the fibula. The first thing of unusual importance that attracted our attention was, that the right side of the heart contained a considerable amount of dark, fluid blood, on the surface of which were floating an immense number of oil-globules of various sizes. The lungs were much congested, though they floated in water, and subsequent microscopical examination showed the smaller branches of the pulmonary artery and the capillaries to be filled with fat in every portion of either lung that was examined. A similar condition existed in the capillaries of the kidneys. Extensive suppuration was suspected during life to be extending upward from the point of injury, and such was found to be the case at the *post mortem*. There was also commencing disorganization of the knee-joint. It is to be hoped that the case will be published in full.

S. B. W.

Traumatic Tetanus cured by stretching the Nerves of the Brachial Plexus.—Prof. Vogt, of the University at Greifswald, reports this case in the *Centralblatt für Chirurgie*, No. 40, 1876: A laborer, aged sixty-three, sustained an injury of the right hand from a falling stone. At the end of two weeks, the palmar wound was healed, and on the dorsum, opposite the lower end of the third metacarpal bone, a healthy granulating surface existed, when trismus was observed. Severe opisthotonos and clonic convulsions of the lower extremities followed, in spite of the free use of opium. There was no tenderness in either wound, nor over the course of the nerves in the arm or forearm, but the brachial plexus in the neck was very tender, and pressure gave rise to spasms of the muscles. The operation was performed and the treatment conducted with all antiseptic precautions. The brachial plexus was exposed on the right side of the neck, in the triangle inclosed by the trapezius, omo-hyoid, and scaleni muscles, its sheath opened, and the separate trunks drawn out and well stretched. The sheath, appearing strongly injected, was loosened from the surrounding tissues as far as the spinal canal. In the hand, the palmar cicatrice was separated from the sheath of the flexor tendons by a crucial incision and subsequent dissection, and the cicatrizing edge of the dorsal wound was excised. Immediately on waking, the patient could open his mouth and protrude his tongue, and all symptoms disappeared except some slight spasms of the muscles of the neck, which followed vomiting (on the second day). On the tenth day after the operation the wounds were nearly healed. The patient had had no other medicine than opium, for restlessness at night, and felt no morbid sensations beyond occasional pricking in the fingers. W. T. B.

Nerve-Stretching.—In 1872 Prof. von Nussbaum published his first case on the treatment of central lesions by nerve-stretching. The *Aerztliches Intelligenz-Blatt*, No. 8, 1876, reports the following case: The patient, a Polish gentleman, aged thirty-five years, had for eleven years suffered from paraplegia, which was the result of an injury in the sacral region. There had been an almost total loss of sensation, while voluntary motion was completely annihilated. The bladder and rectum were affected, and incontinence of urine, as a natural result, followed. After administering chloroform, the following operation was performed: A curved incision was made in the right groin, over and along the course of Poupart's ligament. The fascia was divided, and the anterior crural nerve exposed and separated from the vein and artery. The operator hooked his finger under the nerve and raised it with such force that the foot was moved. He then seized it between the thumb and finger, and made traction downward, until it appeared to be elongated. The inguinal wound having been carefully dressed, a longitudinal incision was made on the same side, midway between the tuber ischii and the great trochanter, so as to expose the sciatic nerve, which was also elevated from its bed and pulled forcibly upward and downward. These operations were followed by the immediate cessation of the spasmodic movements with which the limbs had been affected since the time of the accident, on the side on which the operation had been performed. The wounds healed rapidly, and the operation was repeated on the left side in a fortnight, with the most satisfactory result. The relief afforded was complete, and the patient, who for years had been confined to his bed, was subsequently able to get up and move about on crutches, the paralyzed limbs being furnished with mechanical support. S. B. W.

Peritonitis from Perforation, presenting Symptoms of Intestinal Occlusion.—In the *Bulletin Médical du Nord*, March, 1876, Dr. Follet reported the case of a child, ten years old, which had always enjoyed good health, though its mother had died of phthisis. It was seized very suddenly with symptoms of intestinal occlusion, having had no passage for two days. Some pains were felt in the abdomen, especially on the right side; there was slight tympanites, the pulse was 110, but no heat of skin. A purge administered the following morning produced no effect. On the following day two purgative enemata were given, without effect; vomiting set in, and the abdominal pain increased. From this time onward the symptoms became much aggravated, and vomiting was incessant, the matters consisting of yellowish-green, sometimes entirely green mucus, and on one occasion the vomited matter had a pronounced fecal odor. Enormous tympanites, indistinct puffiness in the left hip; face anxious and pinched; pulse small and 120; no heat of skin, indeed the feet and hands were cold; no passage of stools or flatus; intolerable abdominal pain. On the sixth day, after having tried all the usual means, and before resorting to the operation, two procedures were employed which have been successful in desperate cases: succussion of the patient with the head downward, and forced enemata, but without effect. On the seventh day from the commmencement of the illness the child had almost succumbed, when the operation was decided upon. An incision, made over the crural arch, reached the appendix vermiformis, toward the extremity of which there was found a perforation, undoubtedly tuberculous, from which fecal matters oozed. The perforation was enlarged, and the appendix was fixed externally, constituting an artificial anus. The discharge of liquid fæces and gas was very abundant at first, but ceased completely at the end of several hours. There was no abatement in the symptoms, and the child died ten hours after the operation. At the autopsy, no trace of mechanical obstruction nor invagination, volvulus, or fibrous constriction, could be found; only general peritonitis following the lesion of the appendix vermiformis. There is only one way of interpreting the above symptoms, in assuming that the intense and diffuse peritonitis, following the perforation, had paralyzed, to a more than ordinary degree, the muscular coats of the intestine. Its walls were, therefore, distended to an extreme extent, and the folds of this distended mass were bent at various angles. The digestive tube was thus divided into a large number of segments, which were disconnected with each other, and thus imprisoned the gases and fluids contained. It is this condition which prevents the capillary punctures of the intestine in cases of meteorism, even without occlusion, from affording much relief, the punctured coil alone being evacuated. In the true sense of the word there was an occlusion in this case, from the extreme intestinal distention.—*Gaz. Méd. de Paris*, No. 24, 1876. E. F.

Rare Form of Fracture of the Superior Extremity of the Tibia.—S. Duplay and E. Marot report (*Progrès Méd.*, April 29, 1876) the case of a man, sixty years of age, who was received into the Hôpital St.-Louis a few moments after a block of stone fell on the right leg, which threw him down. When examined, the whole inferior extremity was intensely swollen, and immediately below the patella there was a depression as if made by the blow of a hatchet, analogous to that of luxation of the tibia backward. The lateral movements of the leg did not take place in the knee, and after the administration of chloroform it was easily established that they took place at the site of a fracture of the tibia, which was limited to its upper surface, and probably communicated with the articulation. The displacement could not be reduced by any amount of traction, but on the leg being flexed reduction was accomplished, and it was clear that in this way the fragments were placed in coaptation. The patient died on the thirteenth day, from gangrene, which extended up to the thigh, and at the autopsy extensive pneumonia was found; there was a vast gangrenous phlegmon of the leg, rupture of the popliteal vein, and incomplete rupture of the anterior tibial veins. The popliteal artery was obliterated to the extent of two inches, probably from compression by one of the fragments, and rupture of the internal tunic. The upper surface of the bone was broken into four fragments; the middle fragment gave insertion to the crucial ligaments, and commenced immediately behind the tubercle and in front of the insertion of the anterior crucial ligament, to terminate posteriorly one and a half inch below the articular surfaces. The internal fragment comprised the inner half of the internal articular surface and of the tuberosity. The two external fragments comprised the greatest portion of the external tuberosity, and articular surface, which was broken into three fragments.—M. Duplay thinks that the singular features of this fracture can be explained by the mechanism of forced extension : the blow was received when the limb was in a position of exaggerated flexion, and this had produced the displacement of the upper fragment. E. F.

On Medio-Tarsal Sprain.—Terrillon (*Arch. de Méd.*, February, 1876) observes that when a sprain of the foot has been produced by violent motion, the attention of the surgeon is directed to the tibio-tarsal articulation, and ordinarily the disorder is supposed to be situated there. Personal observation has proved to the author that the examination of Chopart's articulation is too often neglected. There is a variety of sprain whose chief location is in the medio-tarsal articulation. When it is associated with sprain of the tibio-tarsal joint it is only secondary, and passes unperceived; if, on the other hand, it exists alone, or is the predominating injury, it merits special observation and treatment. When it is so slight that the patient neglects it at first, it may be followed by a persistent pain during walking, and is only a forerunner of the so-called "tarsalgie des adolescents," of anchylosis and even white swelling. The treatment consists in the application of cold from the first, and methodical and continued *massage* of a moderately tight flannel bandage for some days, and subsequently of tincture of iodine when slight pain persists. E. F.

Structural Changes in the Kidneys after Ligation of their Veins.—Drs. Buchwald and Litten (*Virchow's Archiv*, Bd. 66, p. 195) report that they were able to keep dogs and rabbits alive for eight weeks after this operation by means of antiseptic prophylactics. They came to the following results: Immediately after the ligation there were engorgement phenomena, then increasing swelling from œdema and hæmorrhage, accompanied by cloudiness and fatty degeneration of the epithelium; increase of volume up to the sixth day, then diminution of the organ; and, at last, complete atrophy of the same; flake-like disintegration of the epithelium, destruction and disappearance of numerous uriniferous canals, relatively well-preserved glomeruli. Occasionally there was an appearance of new extensive venous efferent vessels, situated externally to the kidney (from the capsule of the kidney to the vena cana inferior, v. supra-renalis, vv. lumbali, vv. diaphragmaticæ), and absence of any inflammatory and proliferous processes. It is worthy of remark that in such cases the glomeruli were preserved, although, in consequence of the engorgement reaching as far as them, the arterial supply was deficient, and their existence should have been questionable. That such is not the case is due to the other efferent blood-vessels, especially the above-mentioned veins, which may constitute the collateral venous vessels for the vena renalis.—*Vierteljahrsschr. f. d. prakt. Heilk.*, Bd. 4, 1876. G. R. C.

Gall-stone in the Urinary Bladder.—Dr. Gütterbock reports (*Virchow's Archiv*, Bd. 66, p. 273) the case of a woman aged fifty-six, from whose urinary bladder he removed a calculus composed mostly of matters which never occur normally in the urine. The calculus, which was removed in pieces, by lithotripsy, weighed thirteen grammes, and consisted for the most part of cholesterine, and contained a little biliary coloring-matter, while the thin, superficial layer presented salts precipitated from the urine. The size of the calculus prevents the suspicion that it had been introduced through the urethra; cholesterine and biliary coloring-matter do not exist in the urine; hence it could only have passed by some abnormal way from the gall-bladder to the urinary bladder. Only one other case has been accurately observed (by Faber Köstlin) where this occurred.—*Vierteljahrsschr. f. d. prakt. Heilk.*, Bd. 4, 1876. G. R. C.

Renal Calculus consisting of Iron.—Cazenave presented to the Société de Biologie a renal calculus obtained from a patient treated by Laborde. The chemical examination showed that it contained 75 per cent. of peroxide of iron. The patient had suffered from renal colic for about ten days. The calculus was passed while he was in a bath, and was accompanied by profuse hematuria.—*Gaz. des Hôpitaux*, and *Gazz. Med. Ital. Venete*, No. 38, 1876. G. R. C.

Varicose Ulcers cured by Tartrate of Iron and Potassa.—Dr. H. Bourguignon (*L'Union*, No. 38, 1876) uses this substance in two, four, or six per cent. solutions (with the addition of a little ammonia to prevent precipitation), according to the tolerance of the patient, in chronic ulcers, but especially for varicose ulcers. It is used in the form of lotions and dressings. A compress of fine charpie saturated with the solution is laid on the ulcer morning and evening at first; later, when the cicatrization has advanced further, only at night. Over this a cerate dressing is placed. If the application of the remedy excites pain at first, a dressing of opium cerate is alternated; after a few days, as a rule, the remedy may be used exclusively. When the cicatrization is tolerably complete, cauterization with nitrate of silver is made, in order to render the surface of the cicatrice smooth, and to hasten the healing. The cicatrices thus obtained are firm and secure from relapse, in consequence of the solid organization of the newly-formed connective tissue. The result depends on the careful application of the dressing. The charpie must be fine, the cerate covering abundant; the charpie compress, saturated with warm water, must be capable of being removed so completely that not a filament remains on the surface of the sore, for that would disturb the healing process.—*Schmidt's Jahrbücher*, No. 8, 1876. G. R. C.

Simple Method of extracting Foreign Bodies from the Œsophagus.—Dr. Edmond Le Bele proposes the following means, by which, on two occasions, in the same individual, he extracted large bones from the œsophagus: A piece of iron wire, of medium thickness and about two feet in length, is bent on itself in the middle so as to form a small loop, in the form of a crochet, the size and shape of which will correspond to the form and volume of the foreign body; the extremity, which rests in the hand of the operator, is likewise bent in such a manner that traction can be exerted; finally, the whole wire is bent so as to correspond to the bucco-pharyngeal curve. The patient being placed in a convenient position, the head is fixed by the left hand of the surgeon, while the right introduces the wire into the œsophagus, keeping it along the posterior wall until it reaches the foreign body, when the movement of deglutition by the patient will often suffice to place the crochet on the inferior surface of the foreign body. As the metallic wire does not take up much room in the patient's throat, it impedes the breathing less than the bulky instruments usually employed, which may also injure the epiglottis.—*Rev. de Thérap.—Bull. de la Soc. de la Sarthe.* E. F.

THEORY AND PRACTICE.

Œdema of the Legs. Part of a Clinical Lecture. By Jonathan Hutchinson, F. R. C. S.—*Lancet*, August 26th.

Under many circumstances œdema of the legs is connected with a tendency to effusion into the cellular tissue generally, with implication, perhaps, of the great serous cavities also. In most of these it is indicative either of a central impediment to the circulation in the form of heart-disease, or of deficient action on the part of the kidneys. There are many other cases, however, in which the swelling of the legs is due to a cause more or less distinctly local, and there are others in which local and general causes each take their share in the result. It becomes of importance, then, and of much interest, to discriminate in each individual case as to the special cause which is at work; and before introducing to you the individual cases, I will attempt an enumeration of the principal groups into which we may classify them:

First, let us note the obvious fact that in the lower extremities the venous circulation is at some difficulty, and that if any influence be at work in the body tending to produce transudation of serum from the blood-vessels it will probably show itself first in the feet and legs. Thus it may be convenient to mention, as the first group, cases in which slight passive dropsy occurs in connection with mere debility. This is common enough, and especially so in the aged and in those whose occupations compel them to remain for long periods standing. Although often unattended by any discoverable disease either in heart or kidneys, its occurrence of course always suggests an examination of those organs.

In the second group we may place cases in which the œdema is due to positive impediment in the heart. In these it will almost always be confined at first to the feet and legs, and it will be purely passive—that is, unattended by any inflammatory induration of the parts affected.

In the third group œdema from disease of the kidneys may be placed; and of these cases we may remark that not unfrequently from the first there is swelling of other parts—the eyelids, backs of the hands, etc.—and very frequently dropsy of the serous cavities.

Of the three forms of œdema just mentioned, it may be said that they are almost always symmetrical and of nearly equal severity in the two limbs. Those which are to follow, however, do not observe this rule, and, although any one of them may affect both legs, it is far more common in most of them to observe the symptom on one side only. This one-sidedness, of course, attracts our attention to a local cause.

In the fourth group we may include all cases in which the œdema is due to mechanical obstacle to the return of venous blood. The commonest example of this class is in the instance of pregnant women in whom the weight of the uterus, pressing upon the iliac veins of one or both sides, very frequently causes what we may suitably call venous œdema of one or both legs. Ovarian tumors, or any other kind of tumor in the abdomen, may produce similar results. And let me here remark that it is by no means certain that the swelling in these cases will wholly disappear when the cause is removed; for not very unfrequently we observe cases in which repeated pregnancies have at length induced a condition of permanent dilatation of the veins, with swelling of the feet. The risk of the œdema becoming permanent is, however, far less than in certain cases which I shall have to mention presently, in which local inflammation occupies the chief place as a cause.

In the fifth group we will place all cases in which there is actual disease of the venous trunks. In cases of phlebitis of the main vein of the limb you have seen the extremity become suddenly much swollen and œdematous, and in such cases the œdema will always be, both as regards its extent and its permanence, in relation with its cause. In plugging of superficial veins, we rarely observe any great amount of œdema, and the same remark is true of the numerous cases in which the superficial veins become entirely disabled by varicose dilatation. In these cases the deeper trunks are efficient to carry on the circulation. In connection with this group I must mention the disease known as *phlegmasia dolens*, which has by many been associated, and perhaps correctly in some cases, with venous occlusion. I find it difficult, however, to believe that plugging of veins is the usual cause of this affection; for, if it were, the deep veins would often be obliterated, and the result would be compensatory enlargement of the superficial ones. The phenomena of phlegmasia dolens are far more like those of lymphatic than venous obstruction, and it ought probably to be included in our next group.

The sixth group shall include those cases in which the œdema is wholly or chiefly due to lymphatic obstruction. So little has as yet been made out as to the pathology of the lymphatic system, and so few are our opportunities of *post-mortem* examination in this direction, that we are obliged to be somewhat less certain in our statements regarding this group than in any other. I do not think, however, that I shall run any risk of misleading you if I ask you to believe that the lymphatic system often takes a large and chief share in the production of œdema, and that it is quite possible for long tracts of the lymphatic tubes to be occluded by inflammatory thickening. I shall have to mention presently one very instructive case in which a whole network of lymphatic trunks in an indurated and cord-like condition could be very easily felt under the skin. In the majority of cases, however, the diagnosis of lymphatic obstruction is conjectural only, and depends to a considerable extent upon the absence of any other satisfactory explanation of the symptoms. In lymphatic cases the disease is almost always non-symmetrical. We may note also, as a curious fact, that very commonly no enlargement of the lymphatic *glands* occurs. I should be inclined to suspect this cause in any case in which the œdema was strictly local and abruptly limited, there being no evidence of disease of the veins or of mechanical pressure. I should consider my diagnosis confirmed if the œdema cleared off without leaving any dilatation of superficial veins, and, during the progress of the case, I should repeatedly and carefully examine the limb in order to ascertain if any little lines like whipcord could be felt under it. It is very difficult in many cases to separate solid œdema, consequent on obstructed lymphatics, from chronic inflammation of the cellular tissue, and in point of fact it is exceedingly probable that the two conditions usually complicate each other. Indeed, it is not unlikely that primary disease of the lymphatics is extremely rare, and that almost always it is secondary to inflammation of the skin and subcutaneous tissues. Modern research has shown that the lymphatic radicles terminate in the areolar interspaces. Hence the facility with which the lymphatic system becomes involved in all forms of inflammation of the skin allied to the erysipelatous.

My last group—the seventh—shall comprise all cases in which the œdema is the result of local inflammation; and these arrange themselves under three heads—those in which the inflammation is allied to erysipelas, those in which it takes the form of elephantiasis, and those in which thrombosis of venous capillaries, or true purpuric ecchymosis, occurs.

The term "elephantiasis" is now definitely understood to be restricted to those cases of which the common Barbadoes leg is an exaggerated type. It is the *elephiantiasis Arabum*, the *boucnemia* of Mr. Erasmus Wilson, and the *scleriasis* of some Continental writers. It has nothing whatever to do with true leprosy, to which unfortunately the term *elephantiasis Græcorum* was formerly applied. Now, in all cases to which the term elephantiasis is applicable there is œdema and something more; there is also overgrowth. And here we establish the line of demarkation between elephantiasis and all other varieties of persistent œdema.

Glycosuria of Nurses.—The report of M. Sinéty before the Society of

Biology, of the remarkable fact that a nurse, during three or four days following the cessation of lactation, voided twelve grammes of sugar every twenty-four hours, led to an interesting discussion in regard to the matter.

M. Blot called attention in 1856 to the fact that sugar is to be found in the urine of nurses and some married women. It is his belief that this is always the case; the amount, however, varies, and the degree of glycosuria is no means of determining the quality of the nurse.

M. Sinéty claims to have met with several healthy nursing-women whose urine was perfectly normal. Whether the conflict of testimony is due to error of observation or not is only to be determined by more complete observation. It is, however, certain that if the sugar formed in the mammary gland does not find exit by the breast, it is eliminated by the urine; and, therefore, the degree of glycosuria is not in proportion to the secretion of milk, but in inverse proportion to the excretion.—*Gaz. Heb.*, June 30, 1876. E. H. B.

Influence of the Smut of Corn.—Prof. Lombroso, continuing his elegant researches on the influence of spoiled corn (*Rendiconti del R. Instituto Lombardo*, 1876), has discovered in the oil of the smut of corn a special alcaloid, to which he has given the name of *pellagrozeina.* The physiological action of this new principle is analogous to that of strychnine, that is, exaggeration of the sensibility and of the muscular contractility which constitutes the basis of common tetanus. There are, however, other analogies in the local caustic action (Köhler), in its antiputridity, the retarding action on the heart, the respiratory paralysis, and in the phenomena presented after death; in short, in the different activity according to the various species of animals (gallinæ and mice presenting less sensibility to strychnine as well as to pellagroceina). The author has also noticed that narcosis follows the tetanic action of pellagroceina in the same manner that it does the accesses caused by strychnine. There is, besides, in the oil of spoiled corn, a second poison, which has an action evidently analogous to cicuta and opium, manifesting itself by paresis and by paralysis of the inferior extremities, salivation, coldness, somnolence, insensibility and clonic convulsions, associated with fibrillary contractions.

Setting out from these data, the author calls to mind the evident analogy of the former poison with pellagra. In fact, patients with pellagra suffer with eructations, gastric cramps, subsultus tendinum, trismus, dorsal retractions, exaggerations of sensibility, tetanic convulsions, etc. The second poison explains, according to Prof. Lombroso, the prevalence, in certain cases, of the clonic and paresic phenomena of pellagrosis, that is, the somnolence, the hebetude, refusal of food, vomiting, tremors, thirst, photophobia, diarrhœa, etc. It is true that the author's experience has been obtained with concentrated extracts from the spoiled corn, but, as he justly says, the pellagroceina bears the same relations in these experiments as atropine does to belladonna in other physiological researches, or as alcohol does to wine. The author concludes that his investigations prove the truth of his theory concerning pellagra, that the latter is due not only to the influence of spoiled corn on the organism, but also that in the poisonous products of fermentation the cryptogamic form is of slight importance while the chemical mutations are of very great weight.—*Lo Sperimentale*, June, 1876. G. R. C.

Deep Injections of Chloroform in the Treatment of Inveterate Sciatica.—This method of treatment, first practised by Collins and Bartholow, consists in the introduction of an hypodermic syringe-needle to as great a depth as possible into the buttock or thigh, and the injection of from thirty to fifty drops of pure chloroform. Collins (Schmidt's *Jahrbuch*,

1875) reported rapid and definite cures of inveterate sciatica, which had resisted the majority of the usual remedies. Among others, he reports the following cases: sciatica, obstinate pain in the internal plantar nerve, duration six weeks, cure after injection of thirty drops; sciatica, six weeks' duration, cure by the first injection. A third case, of three years' duration, disappeared completely after an injection of forty drops. Dr. Cérenville has repeatedly tried this treatment with the best results in old cases of sciatica, which had been treated with blisters, iodine, all kinds of revulsives, even the actual cautery. The injections were made into the buttock, thigh, and ham; cures were obtained as rapid as those reported by Collins; in other cases, however, the pain returned. Cérenville noted two phenomena incidental to these chloroform-injections. In two instances complete anæsthesia of the leg was observed, which lasted two days, and its disappearance was as sudden as its onset. The puncture had been made into the middle posterior portion of the thigh, and the injection had probably penetrated the nerve-sheath or near it. There was also very intense pain at the moment the liquid penetrated. In another case, an injection into the upper part of the ham was followed by a very painful swelling, which yielded to applications of mercurial ointment and emollient poultices. No general effects from the chloroform were observed, nor *malaise.* The average quantity injected each time was about fifty drops.—*Bull. de la Soc. Méd. de la Suisse; Lyon Méd.*, 32, 1876.

E. F.

Lead-Paralysis.—The following is a *résumé* of a paper on this subject recently read before the Société de Biologie, by M. Raymond: 1. Lead-paralysis can commence either in the extensor of the little finger, or in that of the index-finger; 2. In painters, the muscles of either hand can be equally paralyzed; 3. Muscular contractility can disappear progressively in the different fibres of the deltoid; 4. The short extensor of the thumb often retains its contractility when the other muscles are paralyzed; 5. Sometimes the biceps is paralyzed; 6. Loss of electric contractility can precede that of muscular contractility; 7. When the muscles of the dorsal surface are paralyzed and atrophied, the electric current passes with the greatest facility through the flexor muscles; 8. Lead-poisoning may give rise to hemiplegia; 9. It may also engender other cerebral disorders, choreic movements, ataxia, trembling, etc., which are curable; 10. Mercury can give rise to paralysis precisely similar to that due to lead, as M. Gubler has shown; 11. Lead-colic, according to M. Gubler, has its seat in the intestinal walls; when the abdominal muscles are pressed between the hands no pain is produced, while it becomes intolerable when the pressure is exerted on the intestines. The abdominal muscles may be painful in lead-poisoning, but the pain quickly disappears after electrization, as in cases of ordinary myosalgia.—*Lyon Médical*, 29, 1876.

E. F.

On Temperature in Eclampsia.—Two theses, recently sustained before the medical faculty by MM. Diendé and Herbart, bring new facts in support of the opinions urged by MM. Bourneville and Budin. Bourneville, while studying the temperature in diseases of the nervous system, has arrived at the conclusion that, in eclampsia, the temperature rises from the beginning to the end. If the disease is to terminate fatally, the temperature continues to rise, and reaches a very high figure. On the other hand, if the attacks disappear, the coma diminishes or ceases, the temperature will abate progressively, and reach its normal grade. The importance of these conclusions, from a diagnostic point of view, is evident, and M. Bourneville has succeeded in clearly differentiating eclampsia from uræmia, in which latter affection the temperature falls progressively. The new observations by Diendé and Herbart confirm these conclusions. However, two exceptional cases, reported by the former, seem to show that the number of paroxysms is perhaps less important, in a prognostic point of view. In considering the gravity of the disease, the paroxysm is but trifling, compared to the temperature, which is everything. The course of the temperature is of great importance in establishing the prognosis and treatment, as was first pointed out by M. Budin (*Gaz. des Hôp.*, 1872), and the physician who carefully takes the temperature every hour or two will be materially aided in determining these.—*Thèse de Paris*, 1875. E. F.

THERAPEUTICS.

Physiological Action of Vanadium.—From a chemical point of view, vanadium approaches very nearly to phosphorus and arsenic, but from a physiological point of view appears to differ from it in many regards. Priestley Platt used dilute solutions of vanadiate of soda, which he administered by the stomach, by hypodermic injections, as well as by intravenous injections. Whichever portal of introduction was adopted, vanadium acted as one of the most active poisons. With fatal doses, the most salient symptoms observed were motor paralysis, general or partial paralysis, a rapid drowsiness, congestion of the mucous membrane of the digestive passages, lowering of the temperature, interrupted respiration, and weakness of the pulse. Concerning the single functions affected, the author arrived at the following conclusions: 1. The vanadiate of soda acts in its turn on the vaso-motor nervous centres and on the intra-cardiac nerve ganglia, produces diminution of the vascular tension, and renders the pulse weak, irregular, and intermittent. 2. It acts equally on thé respiratory centres. There is at first observed an acceleration, then a retardation of the respiration, which presents besides more or less frequent intermissions. 3. It is without effect on the nerve trunks and their terminal expansions, but exerts its effects on the spinal centres. 4. It has no action whatever on the muscular fibre.—*Gaz. Méd. de Bordeaux*, and *Gazz. Med. Ital. Venete*, No. 29, 1876. G. R. C.

Splenotomy (*Lancet*, *August* 26*th*).—Experience of splenotomy has done little hitherto to lighten the opinion of its gravity which our knowledge of the anatomy and physiology of the spleen suggests. It must still be regarded as one of those operations the hazard of which is almost prohibitory. In the hands of Küchler, Spencer Wells, and Kœberlé, it has been unsuccessful. A break in the uniformity of the failures may serve to encourage those who, in spite of failure, still regard the operation as probably feasible. On the 18th of July last M. Péan presented to the Académie de Médecine two patients on whom he had performed the operation with complete success. One of the cases was operated on in 1867, and subsequently presented to the Académie in good health. The second patient has just recovered. The details of the case and of the operation are of great interest. The patient was a married woman aged twenty-four years. A history of miscarriages and dead children was strongly suggestive of syphilitic taint. A splenic tumor had been observed steadily increasing for eighteen months. In February the tumor filled almost the whole abdominal cavity; it extended to the pelvis and even to the right iliac fossa. Various symptoms, apparently secondary to the tumor, distressed her, and the abdominal pain was constant. The patient implored an operation, which was performed on the 25th of April. An incision was made along the linea alba from three inches above the umbilicus to two and a half inches above the pubis, and a corresponding incision was made through the peritonæum. The tumor was covered by the omentum; this was removed from below upward and pushed to the right of the tumor, beneath the right hypochondrium, and both it and the intestines were kept back by sponges and warm napkins. The tumor had the characteristic reddish-violet color of the spleen. It was seized at its lower extremity, and gradually raised within the lips of the wound, until it rested on the hands of the assistants who were keeping back the intestines. No other organ escaped. The gastro-splenic omentum was about three-quarters of an inch wide at the level of the hilus; it contained blood-vessels and enormous lymphatics. One splenic vein was the size of the index-finger. A wire ligature was passed round the whole pedicle, great care being taken to avoid the pancreas. The pedicle was then surrounded by sponges, and the spleen separated at the hilus by a single cut, being at the same time turned quickly outward. About a quart of blood escaped in a jet from the spleen, but none fell into the abdomen; otherwise not more than thirty grammes of blood were estimated to be lost. No adhesions were met with. The sponges were removed, the great omentum spread out over the intestines, and the abdomen closed, the pedicle being retained between the lips of the wound. The progress of the patient was excellent. The febrile reaction was slight. Some blood appeared in the urine on the third day, but diminished and disappeared a few days later. The pédicle separated in a week. The patient's spirits were very good. Eighteen days after the operation she sat up, and a week afterward returned home.

We congratulate M. Péan on so brilliant a success. It is to be remarked that the patient would appear to have been free from grave constitutional disease, such as leucocythæmia, from which some of the cases operated on were suffering, and which must very much have prejudiced their chance of recovery. M. Péan has shown conclusively that splenotomy must no longer be regarded as an operation absolutely mortal. A careful selection of cases may no doubt be necessary. In this case the morbid state of the spleen was one of simple hypertrophy, and the mental and physical condition of the patient appeared in every respect favorable.

Quadruple Abortion.—Dr. A. C. Farrington reports the following case in the *Lancet:*

On May 13th I was unexpectedly requested to attend Mrs. C. immediately, in her confinement. I had attended her in two natural labors and one premature within the last four years, and felt surprised at receiving the above message again so soon. I found, however, that my patient had aborted at about five months, judging from the appearance of the fœtal bodies and the mother's calculations. There were four in number, all females, and well formed. Two were said to have been born alive, and two dead. The mother, as I have frequently observed in plural cases, is a little, delicate woman. She has suffered much from chronic rheumatism during the last six months, and on the morning of her aborting she was trying to move her bedstead when she felt something give way in her body, and the pains of labor soon followed. On examining the placental structure, it appeared as though there was only one. If there were four, they were so close together, and intimately connected by vascular communications, that I did not observe the lines of separation. I have preserved the whole intact, and the specimen quite gives the appearance that all four cords are attached to one and the only placenta. Dr. Churchill's statistics of the frequency of plural births show that in 129,172 cases of accouchement in the Dublin Hospital, only one was a quadruplet; that in French practice he could record no case; and in German practice, out of 219,303 cases, only two quadruple births had taken place, according to Dr. Riecke. This extraordinary rarity leads me to hope that the above recent case of quadruple abortion may be a little interesting to the profession.

PHYSIOLOGY.

Movements of the Cervix Uteri.—Hoffman and V. Basch (*Medic. Jahrb. der K. K. Ges. der Aerzte*) make the preliminary announcement that they have seen considerable movements of the uterus follow electrical irritation of the peripheral ends of a branch of the aortic plexus of the sympathetic, which arises from a ganglion lying on the inferior mesenteric artery near its origin, and distributed to the cervix. So soon as the current is closed the vaginal portion swells, moves slightly downward, and the os dilates from a stellate or (in virgin uteri) longitudinal orifice to a rounded opening. This gradually closes as the cervix resumes its normal size. Irritation of the horns of the uterus is without effect. Dogs were used in these experiments. W. T. B.

Miscellany.

Appointments, Honors, etc.—Dr. Thomas Dwight has resigned the professorship of Anatomy at the Medical School of Maine, after five years' service, and Dr. Stephen H. Weeks, of Portland, has been appointed lecturer in his place. Dr. Porcher, of Charleston, S. C., has been appointed to deliver the next annual "Toner Lecture," in Washington, D. C., under the endowment of Dr. Toner. Dr. M. B. Wright, a veteran obstetrician, of Cincinnati, has, after a long service, retired from active duty on the staff of the Cincinnati Hospital. Prof. W. H. Taylor, of the Miami Medical College, has been appointed to fill the vacancy. Dr. Toner, of Washington, has offered to donate to his native city of Pittsburg his valuable library, worth twenty thousand dollars, as the basis of a public library for that city, provided a fire-proof building be erected for it, and that it be called by his name. Dr. Alpheus B. Crosby, of this city, has been elected President of the New Hampshire State Medical Society. Dr. Dwight K. Burrell has resigned the position of Assistant Physician to the Bloomingdale Asylum for the Insane, and has accepted that of Resident Physician of Brigham Hall, New York. Dr. J. A. Octerlony has resigned the chair of Materia Medica in the Louisville Medical College and the Kentucky School of Medicine.

Dr. Grainger Stewart has been appointed to the chair of Medicine in the University of Edinburgh, made vacant by the death of Prof. Laycock. Dr. W. T. Gairdner has been appointed one of the physicians to her Majesty in Scotland, in place of the late Prof. Laycock. Dr. McKendrick has been appointed to the chair of Physiology in the Glasgow University, made vacant by the death of Prof. Bennet. Dr. Sieveking has been appointed to deliver the next Harveian oration at the Royal College of Physicians; Dr. George Johnson will deliver the Lumleian, Dr. Braxton Hicks the Croonian, and Dr. Brunton the Gulstonian lectures. Sir William Fergusson has so far recovered that he attends to his office practice and makes some hospital visits. It is announced that Dr. Brown-Séquard is about to resume practice in London. Prof. Lücke, of Strasburg, has been invited to the chair left vacant by the death of Dr. Simon, of Heidelberg. His acceptance is doubtful.

The State Board of Health of Wisconsin.—The following gentlemen have been appointed members of the new Board of Health by the Governor of Wisconsin: Drs. O. G. Selden, Reedsburg, one year; H. P. Strong, Beloit, two years; J. T. Reeve, Appleton, three years; General James Bintliff, Janesville, four years; Dr. Solon Marks, Milwaukee, five years; Dr. John Favill, Madison, six years; and Dr. E. L. Griffin, Fond du Lac, seven years. At the first meeting of the Board Dr. E. L. Griffin was elected President, and Dr. J. T. Reeve, Secretary.

Artificial Prolapsus Ani.—In the provinces of the Austrian Empire which contain a large Jewish population, some singular devices are resorted to by recruits in order to incapacitate themselves for military service. Prolapsus ani is said to be frequently produced by the introduction of sponges and their forcible removal. Much difficulty is experienced in curing the disease without the coöperation of the patient.

Extra-Uterine Fœtation.—In the *Lancet* of November 4th will be found an interesting report, by Mr. Jessop, of a case of extra-uterine pregnancy in which, by an operation, both mother and child were saved. Much stress is laid by the operator on the treatment of the placenta, which was carefully left *in situ*, as in a case reported some months ago by Dr. Thomas, in which the mother made a good recovery.

Van Buren on the Rectum.—We are pleased to learn that Prof. Van Buren's well-known " Treatise on the Diseases of the Rectum " has been translated into the Danish language, and published in Copenhagen, by Dr. C. Sommer, of that city.

The Atlanta Medical and Surgical Journal.—Dr. W. F. Westmoreland has retired from the editorship of this journal, and Drs. J. G. and R. W. Westmoreland have taken his place.

Publications announced.—Messrs. Macmillan & Co. announce that they will shortly issue the fourth volume of Dr. Reynolds's " System of Medicine," treating of the various forms of heart-disease.

The publishers of " The Medical Directory of the United States " announce that the new edition will certainly appear this month.

Influence of High Altitudes on the Progress of Phthisis.—An interesting paper on this subject was read before the International Medical Congress, at Philadelphia, by Dr. C. Denison, of Denver, Colorado. The following are the conclusions arrived at:

I. Cool, dry climates are better than warm, moist ones.

II. The most favorable climatic attributes of low altitudes, especially the diathermancy and dryness of the air, are increasingly found with increasing elevation.

III. The favorable or positive influence of high altitude upon the progress of phthisis is best shown in the incipiency of chronic, inflammatory, and hæmorrhagic cases; and in others, in proportion as these characteristics exist, the more acute the inflammatory process, or the more active the pulmonary hæmorrhage, the more gradual and tentative should be the rise in elevation.

IV. Partial recovery necessitates a permanent residence, i. e., according as the stage of the disease was advanced, or the recovery had been incomplete.

V. The unfavorable or negative influence of high altitude upon the progress of phthisis is mainly in proportion as the disease approaches, or is complicated with, the following conditions:

1. Cardiac disease, if associated with increased labor and abnormal activity of the heart. 2. The stage of "softening" in acute cases, associated with extensive deposit, or irritable, nervous state, and lack of desirable will-power, aided by the stimulus and hope of youth.

VI. The generally-admitted rule that change of climate and mode of life are favorable to the cure of pulmonary consumption in proportion to their early adoption, is rendered more stringent in that the results are more positive in case of a resort to high altitudes.

VII. The stimulating effect of high altitude associated with increased respiratory activity and power, is opposed to the idea of rest, and constitutes a most important agent in arresting chronic phthisis.

VIII. High altitude is a means of arresting phthisis independent of, and in addition to, change of occupation and outdoor life, and is worthy to rank with such hygienic measures.

IX. Such is the importance of an early resort to high altitude, that in incipient cases the patient should receive the *benefit of doubt*, and the physician give affirmative rather than negative advice, in view of possibility of error in declaring the non-existence of phthisis.

X. High altitude being an important attribute of successful climatic treatment, a resort to a well-chosen elevated climate should constitute part of the physician's advice to every consumptive (who can follow it) for whom the elevation is not specially contraindicated.

Gastrotomy for Stricture of the Œsophagus.—M. Verneuil, of Paris, reported to the Academy, at the meeting held October 24th, a successful case of gastrotomy, performed by himself, for stricture of the œsophagus, caused by swallowing caustic potash:

The patient was a lad seventeen years of age, who, on February 5th of the present year, accidentally swallowed a solution of caustic potash. Intense pain in the throat and exfoliation of the mucous membrane of pharynx and œsophagus followed, and, on the subsidence of these immediate effects of the caustic, the patient experienced great difficulty in swallowing. The dysphagia increased until, on March 31st, he came under the care of M. Dumontpallier, at La Pitié Hospital. Attempts at catheterism of the gullet were frequently made without success, the seat of obstruction being apparently in the thoracic portion of the tube. On the 24th of May the patient was transferred to M. Verneuil's care. He was then much emaciated, his face was pale and worn, and his temperature and pulse were below the normal. He was unable to swallow anything, all food being returned as soon as taken. Catheterism showed the existence of a very tight stricture, about seven inches from the upper extremity of the gullet, so low as to preclude the idea of œsophagotomy. After repeated failures to introduce instruments *per vias naturales*, when the patient was under the influence of chloral, M. Verneuil at length decided to perform gastrotomy, after consultation with M. Léon Labbé. Full antiseptic precautions were taken during the operation, of which the following are the details: Chloroform being administered, an incision was made in the abdominal wall parallel to the margin of the ribs on the left side, about two inches in length. The skin, subcutaneous tissue, and obliquui muscles, were then divided, and the peritonæum, being exposed, was raised by forceps and laid open with the scissors. The stomach was recognized by its white color, and, being seized with forceps, was drawn into the mouth of the wound, and its wall brought into apposition with the latter by acupuncture-needles. The portion of stomach exposed was then carefully stitched to the lips of the wound in the peritonæum and the abdominal wall; and the viscus was then laid open. Its wall was of considerable thickness. A vulcanized sound was introduced into the organ for the distance of about three inches. There was considerable hæmorrhage from the incision in the stomach, which was arrested by means of forceps; and, collodion being applied over the whole surface of the abdomen, the patient was removed to bed. He made a good recovery, and almost at once was able to take liquid food through the artificial opening.

An Appeal for Information.—The Superintendents of the American Institutions for the Improvement of Idiots and Feeble-minded Children, having formed an Association for the more rapid advance and spread of their special part of medical science, resolved, not only to unite their efforts, but to seek the assistance of physicians in general practice, who can help them to elucidate the causes of idiocy and kindred affections.

Previously, when searching individually for these causes, we met with three obstacles: one from the parents, whose ignorance or false delicacy would not, or could not, tell the truth; second, one from our mode of procedure, which was to not communicate nor put in common the findings of our individual experience; and a third, worse yet, to send abroad printed inquiries whose specifications were so worded by conceited theories as to force the answers toward biased issues, thereby rendering these data untrustworthy, if not truthless.

Now, knowing better from experience, we send you no syllabus, but we rely upon your own intelligence to write a short communication of the causes of idiocy which have come to your knowledge from reliable witnesses or personal observation.

The names will be either omitted or made use of, at your request.

Please address, as soon as convenient, the Secretary of the Association, I. N. Kerlin, M. D., Superintendent of the Pennsylvania Training School for Feeble-minded Children, Media, Pa.

Members of the Association: Drs. George Brown, Barre, Mass.; G. A. Doren, Columbus, O.; I. N. Kerlin, Media, Pa.; H. M. Knight, Lakeville, Conn.; E. Seguin, New York; E. C. Seguin, New York; Henry Tuck, Boston, Mass.; H. B. Wilbur, Syracuse, N. Y., etc.

Harvey's Laurels in Danger.—A monument in honor of Andrea Cesalpino was unveiled in the University of Rome, October 30th, with imposing ceremonies. The Italians claim for Cesalpino the merit of having discovered the circulation of the blood more than fifty years prior to Harvey's discovery. Dr. Giulio Ceradini, Professor of Physiology in the University of Genoa, seems to have been the orator of the day, and he recommends that over the entrance of the Pisa school, where Cesalpino first taught his discovery, there be placed the following inscription:

"Andrea Cesalpino, of Arezzo, Lecturer on Medicine in the University of Pisa, after the correction of Galen's errors as to the function of the liver and the veins, discovered the circulation of the blood through the whole body, which circulation he made manifest by vivisections after ligatures had been applied to the veins, and which in his 'Quistioni peripateticle," and 'Quistioni Mediche,' published in 1569 or 1593, using the word 'circulation' itself, he fully described. Ill-advised was the English Harvey, who, in 1628, dared to arrogate to himself the discovery of this mighty truth."

The Late Dr. D. B. Hunt.—At a meeting of the medical staff of the Northwestern Dispensary, held on October 6th, the death of Dr. Hunt, late attending physician to the class for diseases of women, being announced, it was resolved that we, his associates, hereby express the deep sorrow occasioned by his loss. As a physician of unusual culture and attainments, and the possessor of all the qualities which mark the Christian gentleman, we shall ever cherish his memory. To his family we tender the assurance of our sincerest sympathy in their bereavement.

In behalf of the medical staff:

R. J. McGay,
George Henry Fox,
W. H. Katzenbach.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 14 *to November* 13, 1876.

Clements, B. A., Surgeon.—To rejoin his station at Fort Sanders, Wy. T., without delay. S. O. 146, Department of the Platte, October 30, 1876.

McClellan, Ely, Surgeon.—To proceed to Columbia, S. C., and report in person to the department commander. S. O. 152, Department of the South, October 19, 1876.

Forwood, W. H., Surgeon.—Assigned to duty, temporarily, in office of the Medical Director of the Department. S. O. 165, Department of the South, November 4, 1876.

Woodhull, Alfred A., Assistant Surgeon.—Promoted surgeon with rank of major, to date from October 1, 1876, *vice* Milhau, resigned. G. O. 103, A. G. O., October 13, 1876.

Jaquett, G. P., Assistant Surgeon.—Assigned to duty at Edgefield, S. C. S. O. 157, Department of the South, October 25, 1876.

De Graw, C. S., Assistant Surgeon.—Granted leave of absence for four months. S. O. 231, A. G. O., November 4, 1876.

Brown, H. E., Assistant Surgeon.—Relieved from duty in Department of the South, and ordered for duty to Military Division of the Atlantic. S. O. 230, A. G. O., November 3, 1876.

Hall, J. D., Assistant Surgeon.—Assigned to temporary duty at Summerville, S. C. S. O. 164, Department of the South, November 4, 1876.

Ewen, C., Assistant Surgeon.—Assigned to duty at Aiken, S. C. S. O. 155, Department of the South, October 23, 1876.

Ainsworth, F. C., Assistant Surgeon.—So much of S. O. 182, C. S., A. G. O., as accepts his resignation to take effect November 10, 1876, is revoked: S. O. 219, C. S., A. G. O.; and relieved from duty in Department of the Columbia, and to report in person to commanding officer, Department of Arizona, for assignment to duty. S. O. 230, A. G. O., November 3, 1876.

Comegys, E. T., Assistant Surgeon.—Ordered to Washington City in charge of an insane soldier, and upon completion of this duty to avail himself of the leave of absence granted him. S. O. 187, Department of Texas, October 9, 1876.

Crampton, L. W., Assistant Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 196, Department of the Gulf, October 13, 1876.

Buell, J. W., Assistant Surgeon.—Assigned to duty at Blackville, S. C. S. O. 155, C. S., Department of the South.

Burton, H. G., Assistant Surgeon.—Assigned to duty at Camp Bowie, A. T. S. O. 122, Department of Arizona, October 4, 1876.

Obituary.

Dr. Jules S. Thebaud was fatally wounded October 11th, by the explosion of a cartridge that he was preparing for a breech-loading rifle. A portion of the brass from the cartridge imbedded itself in the lung, while a projecting point lacerated the heart. The peculiar position and nature of the wound precluded all idea of saving his life from the first. He lingered in great agony for nine days. He died October 20th, in the forty-ninth year of his age. Anodynes were administered to him by his attendant physicians, Drs. Sands, Reynolds, and Stimson, but never to any great extent by his own desire. The deceased was frequently visited in his illness by Cardinal McCloskey, the Vicar-General, Father Quinn, and the venerable Thurlow Weed.

Dr. Thebaud was born at Morristown, N. J., on the 28th of October, 1827. He came of old Knickerbocker stock, his father being a member of the old firm, in this city, of Bouchaud & Thebaud. He graduated at the College of Physicians and Surgeons, and, while still young, gave promise of being an honor to his profession, a promise so well fulfilled in after-life. Leaving New York, he walked the London, Paris, and Vienna hospitals for several years. In 1851 he returned to New York, and established himself in Leroy Place. From the first the deceased was fortunate in practice, and, having ample opportunities for the cultivation of his taste for surgery, soon became a skillful operator. His contributions to medical literature, although not voluminous, were always valuable and practical. He was connected at different times with nearly all the hospitals in the city. He was also attached to the Catholic Orphan Asylum, the Foundling Asylum, St. Vincent's Hospital, in Eleventh Street, and the Colored Home. He leaves a widow and eight children. The funeral services were held at St. Francis Xavier's Church, to which he belonged for many years. The interment took place at Calvary Cemetery.—*Medical Record.*

In the death of Dr. A. G. Walters, of Pittsburg, Pa., which occurred recently, the profession has lost a bold, independent, and successful surgeon. He was a native of Prussia, and a graduate of the University of Berlin. He came to this country in 1836, after having attended the lectures of Sir Astley Cooper. He early attained proficiency and success as a surgeon, and long held a leading position in the section of country where he lived. Dr. Walters published, in 1868, a remarkable paper on "The Treatment of Compound Fractures by Free Incisions through the Fasciæ," which in its boldness and success resembled the earlier treatise on "Compound and Complicated Fractures" of the late Dr. William J. Walker, of this city. His mental vigor, independence, and peculiarities, strongly recalled the characteristics of the distinguished surgeon last named. He recently published, in the *Archives of Clinical Surgery*, a remarkable and successful case of section of both femurs for deformity. Although at the ripe age of sixty-five, he was still in full and active practice when he died, after a brief illness incurred in the pursuit of his profession.—*Boston Medical and Surgical Juornal.*

Prof. Thomas G. Prioleau, M. D.—We record the death of this gentleman in this city, October 4th. He was far the oldest physician in Charleston, being only a few months short of attaining his ninetieth year, and up to the hour of his death (after a few days' sickness) being in the full possession of his faculties. Prof. Prioleau was graduated at the University of Pennsylvania; was one of the original founders of the Medical College of the State of South Carolina, and was Professor of Obstetrics until his resignation a very few years since, when he was placed on its Board of Trustees. He was one of the Presidents of the Medical Society of South Carolina, and he filled many other positions of trust, both medical and civil. He was a man of great activity both, mental and physical, having long enjoyed a most extensive practice.—*Charleston Medical and Surgical Journal.*

Thomas Laycock, M. D., F. R. S. E., F. R. C. P. E., Professor of the Practice of Physic in the University of Edinburgh, died September 17th, of pulmonary phthisis. Prof. Laycock was born in 1812, and since the year 1846 had been actively engaged as a lecturer, first in the York School of Medicine, and later in the University of Edinburgh. His fame will rest chiefly on his labors as an author; not less than three hundred papers, besides several larger works, have come from his pen. His favorite subject was psychology, and many of his best published works were on the functions of the brain and nervous system.

Edinburgh has to lament in his death the loss of another of the eminent men who have made her university famous in the annals of medicine.

Dr. Samuel Smith Mizner, of Nicholasville, Kentucky, died October 3, 1876, of cancer of the stomach. He was born in Anderson County, Ky., December 18, 1815; graduated at the College of Physicians and Surgeons, New York, in 1844; commenced the practice of medicine in 1856, about six miles from Nicholasville, where he settled some years afterward and established a large and lucrative practice, which he attended very successfully until his health failed some five years since. He was devoted to his profession, and was a man of fine judgment and literary attainments. He occupied a high position with the members of the profession, and in the community generally. S. L. H.

Frederick William Godon, M. D., of San Francisco, and formerly of this city, died of consumption, at San Rafael, September 23d, after a brief illness, aged thirty-three years. Dr. Godon was a young physician of culture and high aims, and at the time of his death he was rising to an honorable position in the profession. He was a graduate of Harvard College, and of the Bellevue Hospital Medical College.

The recent death of Dr. Francis Gibson was sudden and unexpected. Dr. Gibson had occupied a prominent position in the British metropolis for many years, and was permanent Vice-President of the British Medical Association. Besides having a large practice, he was a liberal contributor to medical literature. He was sixty-one years of age at the time of his death.

Dr. David Brainerd Hunt died in this city, September 25th, aged thirty years. Dr. Hunt was a gentleman of superior education and abilities, and had just begun what promised to be a brilliant career.

Julian S. Sherman, A. M., M. D., Professor of Orthopedic Surgery and Diseases of the Joints, in the Chicago Medical College, died on the 16th of August, 1876.

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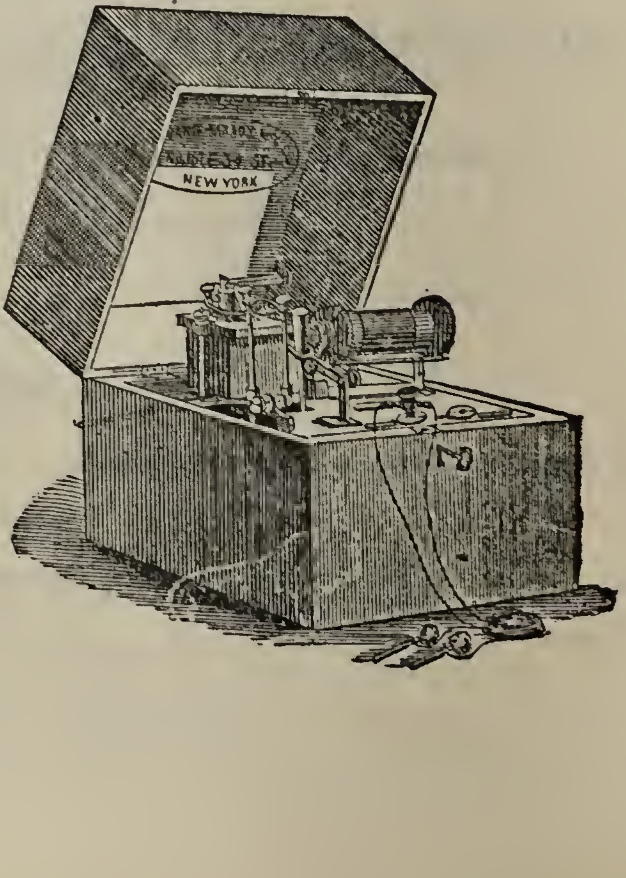

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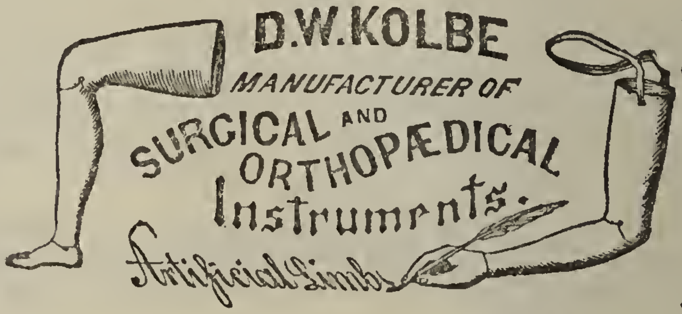

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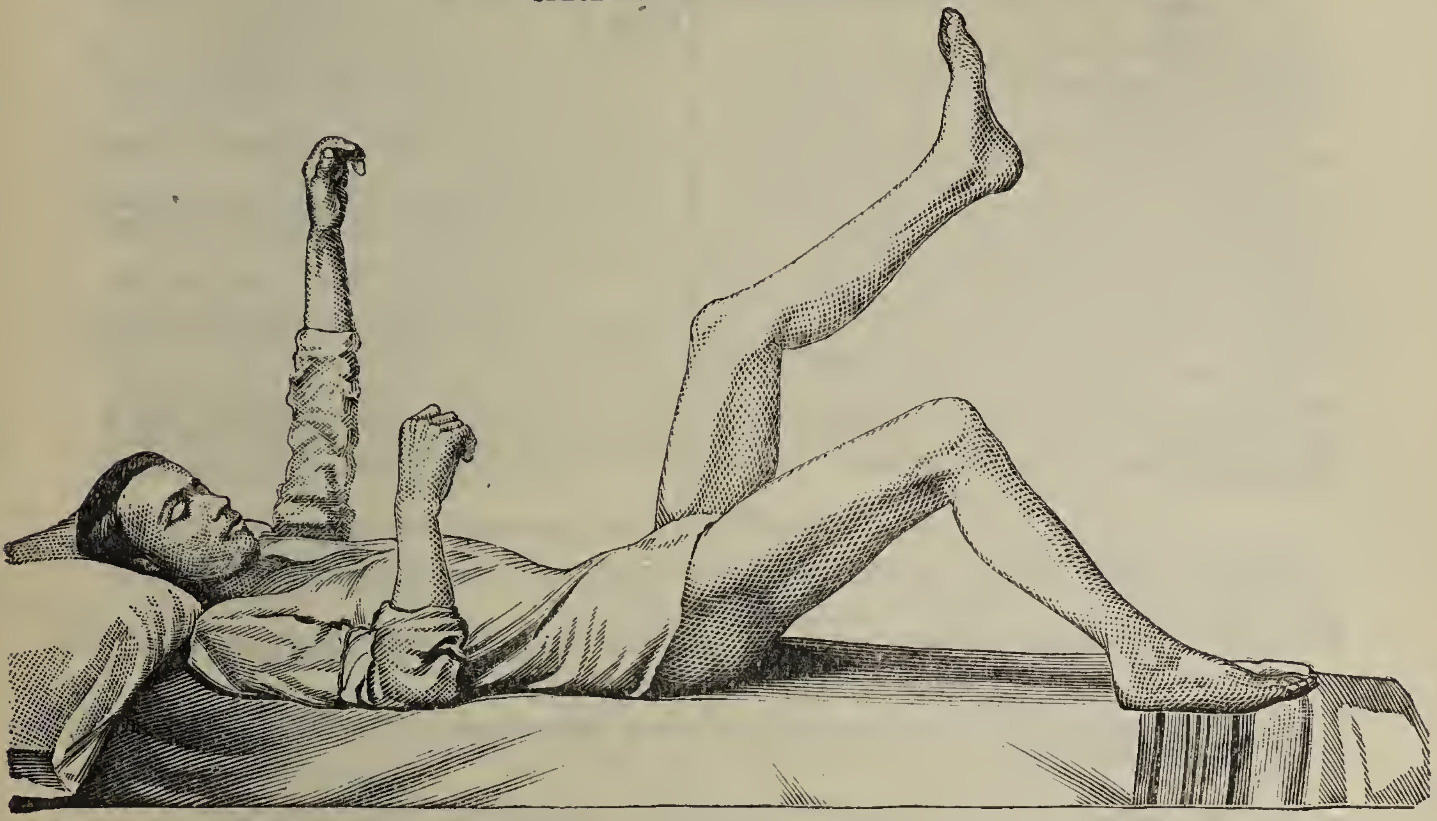

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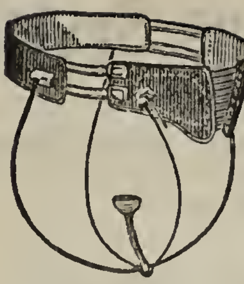

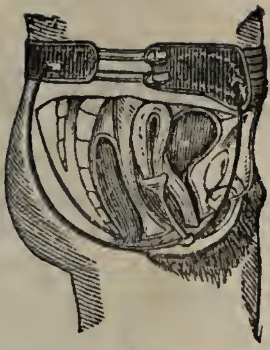

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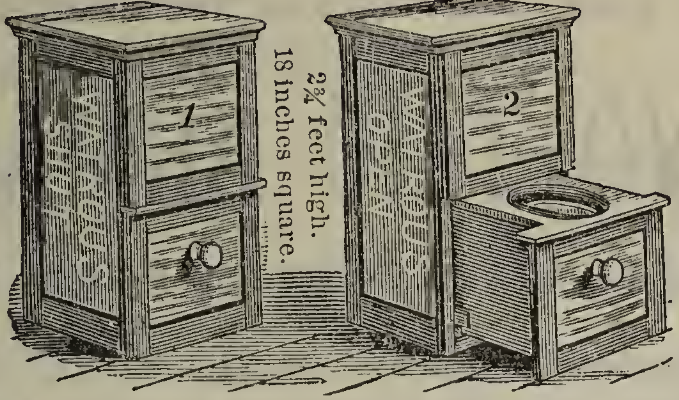
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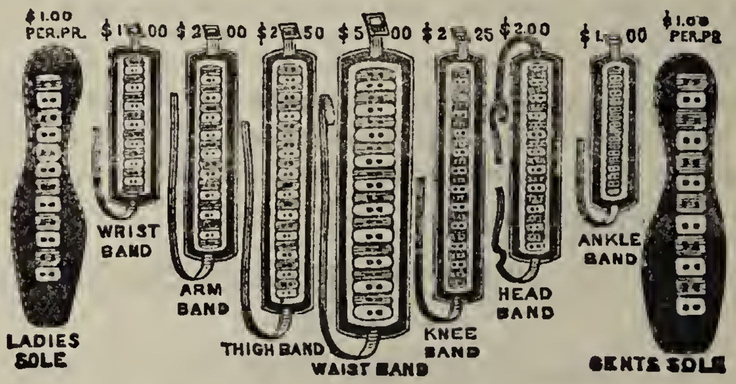

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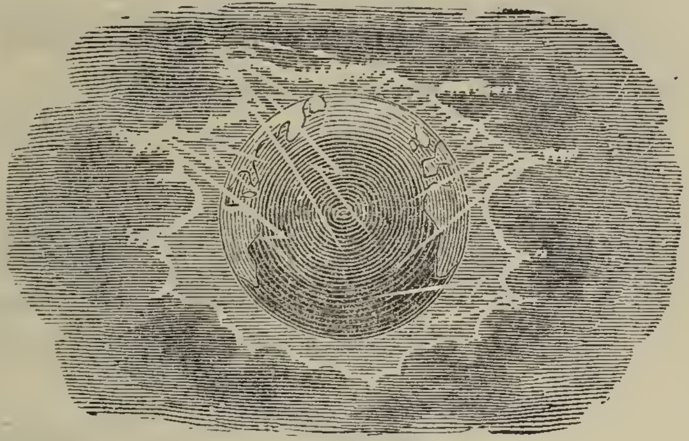

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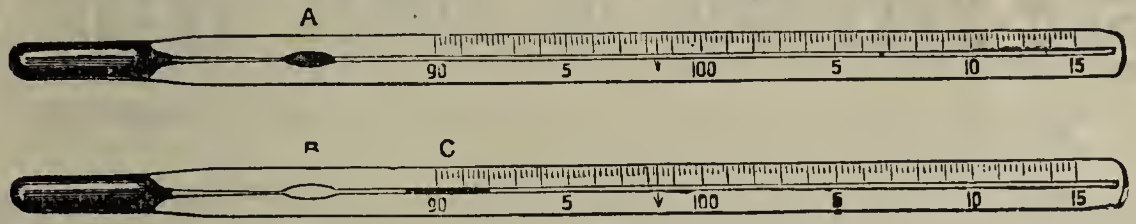

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